



SEQUENCE LISTING

<110> Innogenetics N.V.

<120> New sequences of hepatitis C virus genotypes for diagnosis, prophylaxis and therapy

<130> 35

<160> 284

<170> PatentIn version 3.1

<210> 1

<211> 213

<212> DNA

<213> hepatitis C virus

<400> 1

ctcacggAAC ggctttactg cgggggcCCT atgttcaaca gcaaggggc ccagtgtggT 60

tatcgccgCT gCcgtgccag tggagttctg cctaccagCT tcggcaacac aatcacttgc 120

tacatcaagg ccacagcggc tgcaagggCC gcaggcctcc ggaacccgga ctTTcttgTC 180

tgccgagatg atctggTCgt ggtggctgag agt 213

<210> 2

<211> 71

<212> PRT

<213> hepatitis C virus

<400> 2

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly
1 5 10 15Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr
20 25 30Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala
35 40 45Arg Ala Ala Gly Leu Arg Asn Pro Asp Phe Leu Val Cys Gly Asp Asp
50 55 60Leu Val Val Val Ala Glu Ser
65 70

<210> 3

<211> 213

<212> DNA
<213> hepatitis C virus

<400> 3
ctcacggAAC ggctttactg cgggggcCCT atgttcaaca gcaaggGGGc ccagtgtggT 60
tatcgccgCT gCcgtGCCAG tggagttctg CCTaccAGCT tcggcaacAC aatcaCTTgc 120
tacatcaagg ccacAGCGGC tgcaaggGCc gcaggcCTCC ggaacCCGGA ctTTCTTgTC 180
tgccgagatg atctggTCgt ggtggctgag agt 213

<210> 4
<211> 71
<212> PRT
<213> hepatitis C virus

<400> 4

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala
35 40 45

Lys Ala Ala Gly Leu Arg Asn Pro Asp Phe Leu Val Cys Gly Asp Asp
50 55 60

Leu Val Val Val Ala Glu Ser
65 70

<210> 5
<211> 213
<212> DNA
<213> hepatitis C virus

<400> 5
ctcacggAGC ggctttactg cgggggcCCT atgtttaACA gcaaggGGGc ccagtgtggT 60
tatcgccgTT gCcgtGCCAG tggagttctg CCTaccAGCT tcggcaacAC aatcaCTTgt 120
tacatcaaAG ccacAGCGGC cgcaAAAGCC gcaggcCTCC ggagCCCGGA ctTTCTTgTC 180
tgccgagatg atctggTCgt ggtggctgag agt 213

<210> 6
<211> 71

<212> PRT

<213> hepatitis C virus

<400> 6

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala
35 40 45

Lys Ala Ala Gly Leu Arg Ser Pro Asp Phe Leu Val Cys Gly Asp Asp
50 55 60

Leu Val Val Val Ala Glu Ser
65 70

<210> 7

<211> 213

<212> DNA

<213> hepatitis C virus

<400> 7

ctcacggagc ggctttactg cgggggcct atgtttaaca gcaaaggggc ccagtgtggt 60

tatcgccgtt gccgtgccag tggagttctg cctaccagct tcggcaacac aatcacttgt 120

tacatcaaag ccacagcggc cgcaaaagcc gcaggcctcc ggagccccga ctttcttgtc 180

tgcggagatg atctggtcgt ggtggctgag agt 213

<210> 8

<211> 71

<212> PRT

<213> hepatitis C virus

<400> 8

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala
35 40 45

Lys Ala Ala Gly Leu Arg Ser Pro Asp Phe Leu Val Cys Gly Asp Asp
50 55 60

Leu Val Val Val Ala Glu Ser
65 70

<210> 9
<211> 213
<212> DNA
<213> hepatitis C virus

<400> 9
ctcacggagc ggctttactg cggggggccct atgttcaaca gcaagggggc ccagtgtggt 60
tatcgccgtt gtcgtgccag tggagttctg cctaccagtt tcggcaacac aatcacttgt 120
tacatcaagg ccacagcggc tgcaaaagcc gcaggcctcc ggaaccggga ctttcttgg 180
tgccgagatg' atttggtcgt ggtggctgag agt 213

<210> 10
<211> 71
<212> PRT
<213> hepatitis C virus

<400> 10

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala
35 40 45

Lys Ala Ala Gly Leu Arg Asn Pro Asp Phe Leu Val Cys Gly Asp Asp
50 55 60

Leu Val Val Val Ala Glu Ser
65 70

<210> 11
<211> 213
<212> DNA
<213> hepatitis C virus

<400> 11
ctcacggagc ggcttactg cgggggcct atgtcaaca gcaaggggc ccagtgttgt 60
tatcgccgtt gtcgtgccag tggagttctg cctaccagtt tcggcaacac aatcaattgt 120
tacatcaagg ccacagccgc tgcaaaagcc gcaggcctcc ggaaccggc ctttcttgg 180
tgccgagatg atttggtcgt ggtggctgag agt 213

<210> 12
<211> 71
<212> PRT
<213> hepatitis C virus

<400> 12

Leu Thr Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly
1 5 10 15

Ala Gln Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr
20 25 30

Ser Phe Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Ala Ala Ala
35 40 45

Lys Ala Ala Gly Leu Arg Asn Pro Asp Phe Leu Val Cys Gly Asp Asp
50 55 60

Leu Val Val Val Ala Glu Ser
65 70

<210> 13
<211> 541
<212> DNA
<213> hepatitis C virus

<400> 13
cgtcggcgct cctgttaggag gcgtcgcaag agcccttgcg catggcgtga gggcccttga 60
agacgggata aatttcgcaa cagggattt gcccggttgc tccttttcta tcttccttct 120
tgctctgttc tcttgcttaa tccatccagc agcttagtcta gagtggcggc acacgtctgg 180
cctctatgtc cttaccaacg actgttccaa tagcagtatt gtgtatgagg ccgatgacgt 240
tattctgcac acacccggct gtgtaccttg tgttcaggac ggtaatacat ctgcgtgctg 300
gaccccagtg acacctacag tggcagtcag gtacgtcgga gcaaccacccg cttcgatacg 360
caggcatgta gacatgttgg tggcgcggc cacgatgtgc tctgctct acgtgggtga 420

tatgtgtggg gccgtttcc tcgtggaca agcttcacg ttcagacctc gtcgccatca 480
aacggtccag acctgtaact gctcaactgta cccaggccat cttcaggac accgaatggc 540
t 541

<210> 14
<211> 180
<212> PRT
<213> hepatitis C virus

<400> 14

Val Gly Ala Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val
1 5 10 15

Arg Ala Leu Glu Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly
20 25 30

Cys Ser Phe Ser Ile Phe Leu Leu Ala Leu Phe Ser Cys Leu Ile His
35 40 45

Pro Ala Ala Ser Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu
50 55 60

Thr Asn Asp Cys Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val
65 70 75 80

Ile Leu His Thr Pro Gly Cys Val Pro Cys Val Gln Asp Gly Asn Thr
85 90 95

Ser Ala Cys Trp Thr Pro Val Thr Pro Thr Val Ala Val Arg Tyr Val
100 105 110

Gly Ala Thr Thr Ala Ser Ile Arg Arg His Val Asp Met Leu Val Gly
115 120 125

Ala Ala Thr Met Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala
130 135 140

Val Phe Leu Val Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln
145 150 155 160

Thr Val Gln Thr Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly
165 170 175

His Arg Met Ala
180

<210> 15
<211> 541
<212> DNA
<213> hepatitis C virus

<400> 15
cgtcggcgct cctgttaggag gcgtcgcaag agcccttgcg catggcgtga gggcccttga 60
agacggata aatttcgcaa caggaaattt gcccggttgc tcctttctta tcttccttcc 120
tgctctgttc tcttgcttaa tccatccagc agctagtcta gagtggcgga acacgtctgg 180
cctctatgtc cttaccaacg actgttccaa tagcagtatt gtgtatgagg ccgatgacgt 240
tattctgcac acacccggct gtgtaccttg tgttcaggac ggtaatacat ctgcgtgctg 300
gaccccagtg acacctacag tggcagtcag gtacgtcgga gcaaccacccg cttcgatacg 360
cagggatgt a gacatattgg tggcgccggc cacaatgtgc tctgctctt acgtgggtga 420
tatgtgtggg gccgtcttcc tctgtggaca agccttcacg ttca gacacctc gtcgccatca 480
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<210> 16
<211> 180
<212> PRT
<213> hepatitis C virus

<400> 16

Val Gly Ala Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val
1 5 10 15

Arg Ala Leu Glu Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly
20 25 30

Cys Ser Phe Ser Ile Phe Leu Pro Ala Leu Phe Ser Cys Leu Ile His
35 40 45

Pro Ala Ala Ser Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu
50 55 60

Thr Asn Asp Cys Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val
65 70 75 80

Ile Leu His Thr Pro Gly Cys Val Pro Cys Val Gln Asp Gly Asn Thr
85 90 95

Ser Ala Cys Trp Thr Pro Val Thr Pro Thr Val Ala Val Arg Tyr Val
100 105 110

Gly Ala Thr Thr Ala Ser Ile Arg Arg His Val Asp Ile Leu Val Gly
115 120 125

Ala Ala Thr Met Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala
130 135 140

Val Phe Leu Val Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln
145 150 155 160

Thr Val Gln Thr Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly
165 170 175

His Arg Met Ala
180

<210> 17
<211> 541
<212> DNA
<213> hepatitis C virus

<400> 17
cgtcgccgct cctgttaggag gcgtcgcaag agcccttgcg catggcgtga gggcccttga 60
agacgggata aatttcgcaa caggaaattt gcccggttgc tcctttcta tcttccttct 120
tgctctgttc tcttgcttaa tccatccagc agctagtcta gagtggcggg acacgtctgg 180
cctctacgtc cttaccaacg actgttccaa tagcagtatt gtgtatgagg ccgatgacgt 240
tattctgcac acacccggct gtgtaccttg tgttcaggac ggtaatacat ctgcgtgctg 300
gaccggatgtg acacctacag tggcagtcag gtacgtcgga gcaaccacccg cttcgatacg 360
caggcatgtg gacatattgg tgggcgcggc cacgatgtgc tctgctct acgtgggtga 420
tatgtgtggg gccgtttcc tcgtgggaca agccttcacg ttcaagacctc gtcgccatca 480
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<210> 18
<211> 180
<212> PRT
<213> hepatitis C virus

<400> 18

Val Gly Ala Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val
1 5 10 15

Arg Ala Leu Glu Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly
20 25 30

Cys Ser Phe Ser Ile Phe Leu Leu Ala Leu Phe Ser Cys Leu Ile His
35 40 45

Pro Ala Ala Ser Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu
50 55 60

Thr Asn Asp Cys Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val
65 70 75 80

Ile Leu His Thr Pro Gly Cys Val Pro Cys Val Gln Asp Gly Asn Thr
85 90 95

Ser Ala Cys Trp Thr Pro Val Thr Pro Thr Val Ala Val Arg Tyr Val
100 105 110

Gly Ala Thr Thr Ala Ser Ile Arg Arg His Val Asp Ile Leu Val Gly
115 120 125

Ala Ala Thr Met Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala
130 135 140

Val Phe Leu Val Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln
145 150 155 160

Thr Val Gln Thr Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly
165 170 175

His Arg Met Ala
180

<210> 19
<211> 541

<212> DNA

<213> hepatitis C virus

<400> 19 cgtcggcgct cccgttaggag gcgtcgcaag agcccttgcg catggcgtga gggcccttga

60

agacgggata aatttcgcaa caggaaattt gcccggttgc tcctttcta ttttccttct

120

tgctctgttc tcttgcttaa ttcatccagc agctagtcta gagtggcggg atacgtctgg

180

cctctatgtc cttaccaacg actgttccaa tagcagtatt gtgtacgagg ccgatgacgt

240

tattctgcac acacccggct gcatacccttgc tgtccaggac ggcaatacat ccacgtgctg

300

gaccccagtg acacctacag tggcagtcaa gtacgtcggg gcaaccacccg ctgcatacg

360

cagtcatgtg gacctattag tgggcgcggc cacgatgtgc tcagcgctct acgtgggtga

420

tatgtgtggg gccgtcttcc ttgtgggaca agccttcacg ttcaagacctc gtcgccatca

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540

t

541

<210> 20

<211> 180

<212> PRT

<213> hepatitis C virus

<400> 20

Val Gly Ala Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val
1 5 10 15

Arg Ala Leu Glu Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly
20 25 30

Cys Ser Phe Ser Ile Phe Leu Leu Ala Leu Phe Ser Cys Leu Ile His
35 40 45

Pro Ala Ala Ser Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu
50 55 60

Thr Asn Asp Cys Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val
65 70 75 80

Ile Leu His Thr Pro Gly Cys Ile Pro Cys Val Gln Asp Gly Asn Thr
85 90 95

Ser Thr Cys Trp Thr Pro Val Thr Pro Thr Val Ala Val Lys Tyr Val

100 105 110

Gly Ala Thr Thr Ala Ser Ile Arg Ser His Val Asp Leu Leu Val Gly
115 120 125

Ala Ala Thr Met Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala
130 135 140

Val Phe Leu Val Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln
145 150 155 160

Thr Val Gln Thr Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly
165 170 175

His Arg Met Ala
180

<210> 21
<211> 541
<212> DNA
<213> hepatitis C virus

<400> 21
cgtcggcgct cccgttaggag gcgtcgcaag agcccttgcg catggcgtga gggcccttga 60
agacgggata aatttcgcaa caggaaattt gcccggttgc tcctttcta ttttccttct 120
tgctctgttc tcttgcttaa ttcatccagc agctagtcta gagtggcgga atacgtctgg 180
cctctatgtc cttaccaacg actgttccaa tagcagtatt gtgtacgagg ccgatgacgt 240
tattctgcac acacccggct gcatacccttgc tgccaggac ggcaatacat ccacgtgctg 300
gaccccagtg acacccatcg tggcagtcaa gtacgtcgga gcaaccacccg ctccgatacg 360
cagtcatgtg gacctattag tggcgccggc cacgatgtgc tctgcgtct acgtgggtga 420
catgtgtggg gctgtcttcc tcgtgggaca agccttcacg ttcagacctc gtcgccatca 480
aacggtccag acctgttaact gctcgctgtaa cccaggccat ctccaggac atcgaatggc 540
t 541

<210> 22
<211> 180
<212> PRT
<213> hepatitis C virus

<400> 22

Val Gly Ala Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val
1 5 10 15

Arg Ala Leu Glu Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly
20 25 30

Cys Ser Phe Ser Ile Phe Leu Leu Ala Leu Phe Ser Cys Leu Ile His
35 40 45

Pro Ala Ala Ser Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu
50 55 60

Thr Asn Asp Cys Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val
65 70 75 80

Ile Leu His Thr Pro Gly Cys Ile Pro Cys Val Gln Asp Gly Asn Thr
85 90 95

Ser Thr Cys Trp Thr Pro Val Thr Pro Thr Val Ala Val Lys Tyr Val
100 105 110

Gly Ala Thr Thr Ala Ser Ile Arg Ser His Val Asp Leu Leu Val Gly
115 120 125

Ala Ala Thr Met Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala
130 135 140

Val Phe Leu Val Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln
145 150 155 160

Thr Val Gln Thr Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly
165 170 175

His Arg Met Ala
180

<210> 23
<211> 541
<212> DNA
<213> hepatitis C virus

<400> 23
cgtcgccgct cccgttaggag gcgtcgcaag agcccttgcg catggcgtga gggcccttga 60
ggacggata aacttcgcaa caggaaattt gccccgttgc tcctttcta tcttccttct 120

tgctctgttc	tcttgcttaa	tccatccagc	agctggtcta	gagtggcgga	atacgctgg	180
cctctatgtc	cttaccaacg	actgttccaa	tagtagtatt	gtgtatgagg	ccgatgacgt	240
tattctgcac	gcgccccggct	gtgtaccttg	tgtccaggac	ggcaatacgt	ctacatgctg	300
gaccccagta	acacctacag	tggcagtcag	gtacgtcggg	gcaaccacccg	cttcgatacg	360
cagtcatgtg	gacctgttag	taggcgcggc	cacgatgtgc	tctgcgcttt	acgtgggtga	420
tatgtgtggg	gccgtcttcc	tcgtgggaca	agccttcacg	ttcagacccc	gccgccatca	480
aacggtccag	acctgtaact	gctcgctgta	cccaggccat	cttcaggac	atcgcatggc	540
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<210> 24
<211> 180
<212> PRT
<213> hepatitis C virus

<400> 24

Val	Gly	Ala	Pro	Val	Gly	Gly	Val	Ala	Arg	Ala	Leu	Ala	His	Gly	Val
1				5				10					15		

Arg	Ala	Leu	Glu	Asp	Gly	Ile	Asn	Phe	Ala	Thr	Gly	Asn	Leu	Pro	Gly
						20			25				30		

Cys	Ser	Phe	Ser	Ile	Phe	Leu	Leu	Ala	Leu	Phe	Ser	Cys	Leu	Ile	His
							35		40				45		

Pro	Ala	Ala	Gly	Leu	Glu	Trp	Arg	Asn	Thr	Ser	Gly	Leu	Tyr	Val	Leu
					50			55				60			

Thr	Asn	Asp	Cys	Ser	Asn	Ser	Ser	Ile	Val	Tyr	Glu	Ala	Asp	Asp	Val
								65		70		75		80	

Ile	Leu	His	Ala	Pro	Gly	Cys	Val	Pro	Cys	Val	Gln	Asp	Gly	Asn	Thr
								85		90			95		

Ser	Thr	Cys	Trp	Thr	Pro	Val	Thr	Pro	Thr	Val	Ala	Val	Arg	Tyr	Val
						100			105				110		

Gly	Ala	Thr	Thr	Ala	Ser	Ile	Arg	Ser	His	Val	Asp	Leu	Leu	Val	Gly
							115		120			125			

Ala Ala Thr Met Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala
130 135 140

Val Phe Leu Val Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln
145 150 155 160

Thr Val Gln Thr Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly
165 170 175

His Arg Met Ala
180

<210> 25
<211> 541
<212> DNA
<213> hepatitis C virus

<400> 25
cgtcgccgct cccgttaggag gcgtcgcaag agcccttgcg catggcgtga gggcccttga 60
ggacggata aacttcgcaa caggaaattt gcccggttgc tcttttcta tcttccttct 120
tgctctgttc tcttgcttaa tccatccagc agctggtcta gagtggcggg atacgtctgg 180
cctctatgtc cttaccaacg actgttccaa tagtagtatt gtgtatgagg ccgatgacgt 240
tattctgcac gcgccccggct gtgtaccttg tgtccaggac ggcaatacgt ctacatgctg 300
gaccggcagta acacctacag tggcagtcag gtacgtcggg gcaaccacccg cttcgatacg 360
cagtcatgtg gacctgttag taggcgcggc cacgatgtgc tctgcgttt acgtgggtga 420
tatgtgtggg gccgtcttcc tcgtgggaca agccttcacg ttcagacccc gccgccatca 480
aacggtccag acctgtaact gctcgctgta cccaggccat cttcaggac atcgaatggc 540
t 541

<210> 26
<211> 180
<212> PRT
<213> hepatitis C virus

<400> 26

Val Gly Ala Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val
1 5 10 15

Arg Ala Leu Glu Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly
20 25 30

Cys Ser Phe Ser Ile Phe Leu Leu Ala Leu Phe Ser Cys Leu Ile His
35 40 45

Pro Ala Ala Gly Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu
50 55 60

Thr Asn Asp Cys Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val
65 70 75 80

Ile Leu His Ala Pro Gly Cys Val Pro Cys Val Gln Asp Gly Asn Thr
85 90 95

Ser Thr Cys Trp Thr Pro Val Thr Pro Thr Val Ala Val Arg Tyr Val
100 105 110

Gly Ala Thr Thr Ala Ser Ile Arg Ser His Val Asp Leu Leu Val Gly
115 120 125

Ala Ala Thr Met Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala
130 135 140

Val Phe Leu Val Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln
145 150 155 160

Thr Val Gln Thr Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly
165 170 175

His Arg Met Ala
180

<210> 27
<211> 541
<212> DNA
<213> hepatitis C virus

<400> 27
cgtcggcgct cccgttaggag gcgtcgcaag agcccttgcg catggcgtga gggcccttga 60
ggacgggata aacttcgcaa cagggattt gcccggttgc tctttttcta tcttccttct 120
tgctctgttc tcttgcttaa tccatccagc agctggtcta gagtggcgga atacgtctgg 180
cctctatgtc cttaccaacg actgttccaa tagtagtatt gtgtatgagg ccgatgacgt 240
tattctgcac gcgccccgct gtgtaccttg tgtccaggac ggcaatacgt ctacatgctg 300

gaccccagta acacctacag tggcagtcag gtacgtcgaa gcaaccacccg cttcgatacg 360
cagtcatgtg gacctgttag taggcgcggc cacgatgtgc tctgcgcctt acgtgggtga 420
tatgtgtggg gccgtttcc tcgtggaca agccttcacg ttccagacccc gccccatca 480
aacggtccag acctgtaact gctcgctgta cccaggccat ctccaggac atcgaatggc 540
t 541

<210> 28
<211> 180
<212> PRT
<213> hepatitis C virus

<400> 28

Val Gly Ala Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val
1 5 10 15

Arg Ala Leu Glu Asp Gly Ile Asn Phe Ala Thr Gly Asn Leu Pro Gly
20 25 30

Cys Ser Phe Ser Ile Phe Leu Leu Ala Leu Phe Ser Cys Leu Ile His
35 40 45

Pro Ala Ala Gly Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu
50 55 60

Thr Asn Asp Cys Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val
65 70 75 80

Ile Leu His Ala Pro Gly Cys Val Pro Cys Val Gln Asp Gly Asn Thr
85 90 95

Ser Thr Cys Trp Thr Pro Val Thr Pro Thr Val Ala Val Arg Tyr Val
100 105 110

Gly Ala Thr Thr Ala Ser Ile Arg Ser His Val Asp Leu Leu Val Gly
115 120 125

Ala Ala Thr Met Cys Ser Ala Leu Tyr Val Gly Asp Met Cys Gly Ala
130 135 140

Val Phe Leu Val Gly Gln Ala Phe Thr Phe Arg Pro Arg Arg His Gln
145 150 155 160

Thr Val Gln Thr Cys Asn Cys Ser Leu Tyr Pro Gly His Leu Ser Gly
165 170 175

His Arg Met Ala
180

<210> 29
<211> 287
<212> DNA
<213> hepatitis C virus

<400> 29
tagacttttg ggagagcgtc ttcactggac taactcacat agatgcccac tttctgtcac 60
agactaaagca gcagggactc aacttctcggt tcctgactgc ctaccaagcc actgtgtgcg 120
ctcgcgcgca ggctccccc ccaagttggg acgagatgtg gaagtgtctc gtacggctta 180
agccaacact acatggacct acgcctcttc tatatcggtt ggggcctgtc caaaatgaaa 240
tctgcttgac acaccccatc acaaaataca tcatggcatg catgtca 287

<210> 30
<211> 95
<212> PRT
<213> hepatitis C virus

<400> 30

Asp Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp Ala His
1 5 10 15

Phe Leu Ser Gln Thr Lys Gln Gln Gly Leu Asn Phe Ser Phe Leu Thr
20 25 30

Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser
35 40 45

Trp Asp Glu Met Trp Lys Cys Leu Val Arg Leu Lys Pro Thr Leu His
50 55 60

Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Pro Val Gln Asn Glu Ile
65 70 75 80

Cys Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met Ser
85 90 95

<210> 31
<211> 401
<212> DNA
<213> hepatitis C virus

<400> 31
tccaaaatga aatctgcttg acacaccccg tcacaaaata cattatggca tgcatgtcag . 60
ctgatctgga agtaaccacc agcacctggg tggcgcttgg aggggtcctc gcggccctag . 120
cggcctactg cttgtcagtc ggctgcgttg taatcggtgg tcataatcgag ctggggggca . 180
agccggcact cggtccagac aaggaggtgt tgtatcaaca gtacgatgag atggaggagt . 240
gctcgcaagc cgccccatac atcgaacaag ctcaggtaat agcccaccag ttcaaggaga . 300
aaatccttgg actgctgcag cgagccaccc aacaacaagc tgtcattgag cccgtaatag . 360
cttccaactg gcaaaagctt gaaaccttct ggcacaagca t . 401

<210> 32
<211> 133
<212> PRT
<213> hepatitis C virus

<400> 32

Gln Asn Glu Ile Cys Leu Thr His Pro Val Thr Lys Tyr Ile Met Ala
1 5 10 15

Cys Met Ser Ala Asp Leu Glu Val Thr Thr Ser Thr Trp Val Leu Leu
20 25 30

Gly Gly Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Ser Val Gly Cys
35 40 45

Val Val Ile Val Gly His Ile Glu Leu Gly Gly Lys Pro Ala Leu Val
50 55 60

Pro Asp Lys Glu Val Leu Tyr Gln Gln Tyr Asp Glu Met Glu Glu Cys
65 70 75 80

Ser Gln Ala Ala Pro Tyr Ile Glu Gln Ala Gln Val Ile Ala His Gln
85 90 95

Phe Lys Glu Lys Ile Leu Gly Leu Leu Gln Arg Ala Thr Gln Gln Gln
100 105 110

Ala Val Ile Glu Pro Val Ile Ala Ser Asn Trp Gln Lys Leu Glu Thr

115

120

125

Phe Trp His Lys His
130

<210> 33
<211> 401
<212> DNA
<213> hepatitis C virus

<400> 33
tccaaaatga aatctgcttg acacaccccg tcacaaaata cattatggca tgcatgtcag 60
ctgatctgga agtaaccacc agcacctggg tggatgtttgg aggggttcctc gcggccctag 120
cgccctactg cttgtcagtc ggctgcgttg taatcgtggg tcatatcgag ctggggggca 180
agccggact cggtccagac aaggaggtgt tgtatcaaca gtacgatgag atggaggagt 240
gctcgcaagc cgccccatac atcgaacaag ctcaggtaat agcccaccag ttcaaggaga 300
aaatccttgg actgctgcag cgagccaccc aacaacaagc tgcatttag cccgtaatag 360
cttccaactg gcaaaagctt gaaaccttct ggcacaagca t 401

<210> 34
<211> 133
<212> PRT
<213> hepatitis C virus

<400> 34

Gln Asn Glu Ile Cys Leu Thr His Pro Val Thr Lys Tyr Ile Met Ala
1 5 10 15

Cys Met Ser Ala Asp Leu Glu Val Thr Thr Ser Thr Trp Val Leu Leu
20 25 30

Gly Gly Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Ser Val Gly Cys
35 40 45

Val Val Ile Val Gly His Ile Glu Leu Gly Gly Lys Pro Ala Leu Val
50 55 60

Pro Asp Lys Glu Val Leu Tyr Gln Gln Tyr Asp Glu Met Glu Glu Cys
65 70 75 80

Ser Gln Ala Ala Pro Tyr Ile Glu Gln Ala Gln Val Ile Ala His Gln
85 90 95

Phe Lys Glu Lys Ile Leu Gly Leu Leu Gln Arg Ala Thr Gln Gln Gln
100 105 110

Ala Val Ile Glu Pro Val Ile Ala Ser Asn Trp Gln Lys Leu Glu Thr
115 120 125

Phe Trp His Lys His
130

<210> 35
<211> 401
<212> DNA
<213> hepatitis C virus

<400> 35
tccaaaatga aatctgcttg acacacccca tcacaaaata catcatggca tgcatgtcag 60
ctgatctgga agtaaccacc agcacctggg ttttgcttgg aggggtcctc gcggccctag 120
cgccctactg cttgtcagtc gtttgttgg tgattgtgg tcataatcgag ctggggggca 180
agccggcaat cgttccagac aaagaggtgt tgtatcaaca atacgatgag atggaagagt 240
gctcacaaggc tgccccatat atcgaacaag ctcaggtaat agtcaccagg ttcaaggaa 300
aagtcccttgg attgctgcag cgagccaccc aacaacaaggc tgtcatttag cccatagtaa 360
ctaccaactg gcaaaagctt gaggcctttt ggcacaagca t 401

<210> 36
<211> 133
<212> PRT
<213> hepatitis C virus

<400> 36

Gln Asn Glu Ile Cys Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala
1 5 10 15

Cys Met Ser Ala Asp Leu Glu Val Thr Thr Ser Thr Trp Val Leu Leu
20 25 30

Gly Gly Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Ser Val Gly Cys
35 40 45

Val Val Ile Val Gly His Ile Glu Leu Gly Gly Lys Pro Ala Ile Val
50 55 60

Pro Asp Lys Glu Val Leu Tyr Gln Gln Tyr Asp Glu Met Glu Glu Cys
65 70 75 80

Ser Gln Ala Ala Pro Tyr Ile Glu Gln Ala Gln Val Ile Ala His Gln
85 90 95

Phe Lys Gly Lys Val Leu Gly Leu Leu Gln Arg Ala Thr Gln Gln Gln
100 105 110

Ala Val Ile Glu Pro Ile Val Thr Thr Asn Trp Gln Lys Leu Glu Ala
115 120 125

Phe Trp His Lys His
130

<210> 37
<211> 401
<212> DNA
<213> hepatitis C virus

<400> 37
tccaaaatga aatctgcttg acacacccca tcacaaaata catcatggca tgcatgtcag 60
ctgatctgga agtaaccacc agcacctggg ttttgcttgg aggggtcctc gcggccctag 120
cgccctactg cttgtcagtc gtttgttgc tgattgtggg tcataatcgag ctggggggca 180
agccggcaat cgttccagac aaagaggtgt tgtatcaaca atacgatgag atggaagagt 240
gctcacaaggc tgccccatat atcgaacaag ctcaggtgat agtcaccagg ttcaaggaaa 300
aagtcccttgg attgctgcag cgagccaccc aacaacaaggc tgcatttgc cccatagtaa 360
ctaccaactg gcaaaagctt gaggcctttt ggcacaaggca t 401

<210> 38
<211> 133
<212> PRT
<213> hepatitis C virus

<400> 38

Gln Asn Glu Ile Cys Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala
1 5 10 15

Cys Met Ser Ala Asp Leu Glu Val Thr Thr Ser Thr Trp Val Leu Leu
20 25 30

Gly Gly Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Ser Val Gly Cys
35 40 45

Val Val Ile Val Gly His Ile Glu Leu Gly Gly Lys Pro Ala Ile Val
50 55 60

Pro Asp Lys Glu Val Leu Tyr Gln Gln Tyr Asp Glu Met Glu Glu Cys
65 70 75 80

Ser Gln Ala Ala Pro Tyr Ile Glu Gln Ala Gln Val Ile Ala His Gln
85 90 95

Phe Lys Glu Lys Val Leu Gly Leu Leu Gln Arg Ala Thr Gln Gln Gln
100 105 110

Ala Val Ile Glu Pro Ile Val Thr Thr Asn Trp Gln Lys Leu Glu Ala
115 120 125

Phe Trp His Lys His
130

<210> 39
<211> 401
<212> DNA
<213> hepatitis C virus

<400> 39
tccaaaatga aatctgcttg acacacccca tcacaaaata catcatggca tgcgtgtcag 60
ctgatctgga agtaaccacc agcacctggg ttttgcttgg aggggtcctc gcggccctag 120
cgccctactg cttgtcagtc gtttgtttg tgattgtgg tcataatcgag ctggggggca 180
agccggcaat cgttccagac aaagaggtgt tgtatcaaca atacgatgag atggaagagt 240
gctcacaagc tgccccatat atcgaacaag ctcaggtaat agtcaccag ttcaaggaaa 300
aagtcccttgg attgctgcag cgagccaccc aacaacaagc tgtcatttag cccatagtaa 360
ctaccaactg gcaaaagctt gaggcctttt ggcacaagca t 401

<210> 40
<211> 133
<212> PRT
<213> hepatitis C virus

<400> 40

Gln Asn Glu Ile Cys Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala

1 5 10 15

Cys Met Ser Ala Asp Leu Glu Val Thr Thr Ser Thr Trp Val Leu Leu
20 25 30

Gly Gly Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Ser Val Gly Cys
35 40 45

Val Val Ile Val Gly His Ile Glu Leu Gly Gly Lys Pro Ala Ile Val
50 55 60

Pro Asp Lys Glu Val Leu Tyr Gln Gln Tyr Asp Glu Met Glu Glu Cys
65 70 75 80

Ser Gln Ala Ala Pro Tyr Ile Glu Gln Ala Gln Val Ile Ala His Gln
85 90 95

Phe Lys Glu Lys Val Leu Gly Leu Leu Gln Arg Ala Thr Gln Gln Gln
100 105 110

Ala Val Ile Glu Pro Ile Val Thr Thr Asn Trp Gln Lys Leu Glu Ala
115 120 125

Phe Trp His Lys His
130

<210> 41
<211> 509
<212> DNA
<213> hepatitis C virus

<400> 41
ccatgagcac gaatcctaaa cctcaaagaa aaacaaaaag aaacaccaac cgtcgcccac 60
aggacgtcaa gttcccgggc ggtggtcaga tcgttggcg agtttacttg ttgccgcga 120
ggggccctag gatgggtgtg cgcgcgactc ggaagactc ggaacggtcg caacccctg 180
gacggcgtca gcctattccc aaggcgcgcc agcccacggg ccggtcctgg ggtcaacccg 240
ggtacccttg gccccttac gccaatgagg gcctcggtg ggcagggtgg ctgctctccc 300
ctcgaggctc tcggccta atggggccca atgaccccg gcgaaaatcg cgtaatttgg 360
gtaaggtcat cgatacccta acgtgcggat tcgcccgtat catgggtat atcccgctcg 420
taggcggccc cattggggc gtcgcaaggg ctctcgaca cggtgtgagg gtccttgagg 480

acggggtaaa ctatgcaaca ggaaattta

509

<210> 42
<211> 169
<212> PRT
<213> hepatitis C virus

<400> 42

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Met Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Lys Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly Pro Ile
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu
165

<210> 43
<211> 509
<212> DNA

<213> hepatitis C virus

<400> 43
ccatgagcac gaatcctaaa cctcaaagaa aaacccaaag aaacaccaac cgtcgcccac 60
aggacgtcaa gttccgggc ggtggtcaga tcgttggcgg agtttactg ttgccgcga 120
ggggccctag gatgggtgtg cgcgcgactc ggaagacttc ggaacggtcg caaccccgta 180
gacggcgtca gcctattccc aaggcgcgcc agcccacggg ccggtcctgg ggtcaacccg 240
ggtacccttg gccccttac gccaatgagg gcctcgggtg ggcagggtgg ctgctctccc 300
ctcgaggctc tcggccta at tggggccccca atgaccccg gcgaaaatcg cgtaatttgg 360
gtaaggtcat cgatacccta acgtgcggat tcgccgatct catgggtat atcccgctcg 420
taggcggccc cattggggc gtcgcaaggg ctctcgacaca cggtgtgagg gtccttgagg 480
acgggtaaa ctatgcaaca gggattta 509

<210> 44

<211> 169

<212> PRT

<213> hepatitis C virus

<400> 44

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Met Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Lys Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly Pro Ile
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Val Asn Tyr Ala Thr Gly Asn Leu
165

<210> 45
<211> 580
<212> DNA
<213> hepatitis C virus

<400> 45
aacgtgcgga ttccggcgtat tcattgggtt tatcccgctc gtaggcggcc ccattgggg 60
cgtcgcaagg gctctcgac acggtgtgag ggtccttgag gacggggtaa actatgcaac 120
agggaaattta cccggttgct ctttctctat ctttattctt gctttctct cgtgtctgac 180
cgttccggcc tctgcagttc cctaccgaaa tgcctctggg atttatcatg ttaccaatga 240
ttgccccaaac tcttccatag tctatgaggc agataacctg atcctacacg cacctggttg 300
cgtgccttgt gtcatgacag gtaatgtgag tagatgctgg gtccaaatata cccctacact 360
gtcagccccg agcctcgag cagtcacggc tcctttcgg agagccgttg actaccttagc 420
gggaggggct gccctctgct ccgcgttata cgtaggagac gcgtgtgggg cactattctt 480
ggtaggccaa atgttcacct ataggcctcg ccagcacgct acggtgccaga actgcaactg 540
ttccatttac agtggccatg ttaccggcca ccggatggca 580

<210> 46
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 46

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly
1 5 10 15

Pro Ile Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu
20 25 30

Glu Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Val Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Asn Leu Ile Leu His
85 90 95

Ala Pro Gly Cys Val Pro Cys Val Met Thr Gly Asn Val Ser Arg Cys
100 105 110

Trp Val Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Leu Gly Ala Val
115 120 125

Thr Ala Pro Leu Arg Arg Ala Val Asp Tyr Leu Ala Gly Gly Ala Ala
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln
165 170 175

Asn Cys Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Arg Met
180 185 190

Ala

<210> 47
<211> 580
<212> DNA
<213> hepatitis C virus

<400> 47
aacgtgcgga ttccggatc tcatgggta tatcccgctc gtaggcggcc ccattgggg 60
cgtcgcaagg gctctcgac acggtgtgag ggtccttgag gacggggtaa actatgcaac 120
aggaaattta cccggttgct ctttctctat ctttattctt gctttctct cgtgtctgac 180

cgttccggcc tctgcagttc cctaccgaaa tgcctctggg atttatcatg ttaccaatga	240
ttgccccaaac tcttcatacg tctatgaggc agataaacctg atcctacacg cacctggttg	300
cgtgccttgt gtcatgacag gtaatgtgag tagatgctgg gtccaaattt cccctacact	360
gtcagccccg agcctcgag cagtcacggc tcctttcgg agagccgttg actacctagc	420
gggaggggct gccctctgct ccgcgttata cgtaggagac gcgtgtgggg cactattctt	480
ggtaggccaa atgttcacct ataggcctcg ccagcacgct acgggtcaga actgcaactg	540
ttccatttac agtggccatg ttaccggcca ccggatggca	580

<210> 48
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 48

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly			
1	5	10	15

Pro Ile Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu		
20	25	30

Glu Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe		
35	40	45

Ser Ile Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser		
50	55	60

Ala Val Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp			
65	70	75	80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Asn Leu Ile Leu His		
85	90	95

Ala Pro Gly Cys Val Pro Cys Val Met Thr Gly Asn Val Ser Arg Cys		
100	105	110

Trp Val Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Leu Gly Ala Val		
115	120	125

Thr Ala Pro Leu Arg Arg Ala Val Asp Tyr Leu Ala Gly Gly Ala Ala		
130	135	140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln
165 170 175

Asn Cys Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Arg Met
180 185 190

Ala

<210> 49
<211> 959
<212> DNA
<213> hepatitis C virus

<400> 49
ccatgagcac gaatcctaaa cctcaaagaa aaacccaaag aaacacccaac cgtcgcccac 60
aggacgtcaa gttccgggc ggtggtcaga tcgttggcgg agtttacttg ttgccgcga 120
ggggccctag gatgggtgtg cgcgcgactc ggaagacttc ggaacggtcg caaccccg 180
gacggcgtca gcctattccc aaggcgcgcc agcccacggg ccggtcctgg ggtcaacccg 240
ggtacccttg gcccctttac gccaatgagg gcctcggtg ggcagggtgg ctgctctccc 300
ctcgaggctc tcggcctaatt tggggccccca atgacccccc gcgaaaatcg cgtaatttgg 360
gtaaggtcat cgatacccta acgtgcggat tcgcccattt catgggtat atcccgctcg 420
taggcggccc cattggggc gtcgcaaggg ctctcgaca cggtgtgagg gtccttgagg 480
acggggtaaa ctatgcaaca gggaaatttac ccgggttgctc tttctctatc tttattcttg 540
ctcttctctc gtgtctgacc gttccggcct ctgcagttcc ctaccgaaat gcctctggga 600
tttatcatgt taccaatgtat tgcccaaact cttccatagt ctatgaggca gataacctga 660
tcctacacgc acctgggtgc gtgccttgc tcatgacagg taatgtgagt agatgctggg 720
tccaaattac ccctacactg tcagccccga gcctcgagc agtcacggct cctctcgga 780
gagccgttga ctacctagcg ggaggggctg ccctctgctc cgcgttataac gtaggagacg 840
cgtgtggggc actattcttg gtagggccaaa tgttcaccta taggcctcgc cagcacgcta 900
cggtgcagaa ctgcaactgt tccatttaca gtggccatgt taccggccac cgatggca 959

<210> 50

<211> 319
<212> PRT
<213> hepatitis C virus

<400> 50

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Met Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Lys Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Val Asn Tyr Pro Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Val
180 185 190

Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp Cys Pro
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Asp Asn Leu Ile Leu His Ala Pro
210 215 220

Gly Cys Val Pro Cys Val Met Thr Gly Asn Val Ser Arg Cys Trp Val
225 230 235 240

Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Leu Gly Ala Val Thr Ala
245 250 255

Pro Leu Arg Arg Ala Val Asp Tyr Leu Ala Gly Gly Ala Ala Leu Cys
260 265 270

Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu Val Gly
275 280 285

Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln Asn Cys
290 295 300

Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Arg Met Ala
305 310 315

<210> 51
<211> 959
<212> DNA
<213> hepatitis C virus

<400> 51
ccatgagcac gaatcctaaa cctcaaagaa aaacccaaag aaacaccaac cgtcgcccac 60
aggacgtcaa gttcccgggc ggtggtcaga tcgttggcgg agtttacttg ttgccgcga 120
ggggccctag gatgggtgtg cgcgcgactc ggaagacttc ggaacggtcg caaccccg 180
gacggcgtca gcctattccc aaggcgcgcc agccccacggg ccggtcctgg ggtcaacccg 240
ggtacccttg gcccctttac gccaatgagg gcctcggtg ggcagggtgg ctgctctccc 300
ctcgaggctc tcggccta at tggggcccca atgacccccc gcgaaaatcg cgtaatttg 360
gtaaggtcat cgatacccta acgtgcggat tcgcccgtct catgggtac atcccgctcg 420
taggcggccc cggtggggc gtcgcaaggg ctctcgaca cggtgtgagg gtccttgagg 480
acggggtaaa ctatccaaca gggaaattac ccggttgctc tttctctatc tttattcttg 540
ctcttctctc gtgtctgacc gttccggcct ctgcagttcc ctaccgaaat gcctctggga 600
tttatcatgt taccaatgat tgcccaaact cttccatagt ctatgaggca gataacctga 660

tcctacacgc acctgggtgc gtgccttgc tcatgacagg taatgtgagt agatgctggg	720
tccaaattac ccctacactg tcagccccga gcctcgagc agtcacggct cctcttcgga	780
gagccgttga ctacctagcg ggaggggctg ccctctgctc cgcgttatac gtaggagacg	840
cgtgtggggc actattcttg gtaggccaaa tgttcaccta taggcctcgc cagcacgcta	900
cggtgtcagaa ctgcaactgt tccatatac gtggccatgt taccggccac cggtatggca	959

<210> 52
<211> 319
<212> PRT
<213> hepatitis C virus

<400> 52

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn			
1	5	10	15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly		
20	25	30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Met Gly Val Arg Ala		
35	40	45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro		
50	55	60

Ile Pro Lys Ala Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly			
65	70	75	80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Leu Gly Trp Ala Gly Trp		
85	90	95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro		
100	105	110

Arg Arg Lys Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys		
115	120	125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly Pro Val		
130	135	140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp			
145	150	155	160

Gly Val Asn Tyr Pro Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Val
180 185 190

Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp Cys Pro
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Asp Asn Leu Ile Leu His Ala Pro
210 215 220

Gly Cys Val Pro Cys Val Met Thr Gly Asn Val Ser Arg Cys Trp Val
225 230 235 240

Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Leu Gly Ala Val Thr Ala
245 250 255

Pro Leu Arg Arg Ala Val Asp Tyr Leu Ala Gly Gly Ala Ala Leu Cys
260 265 270

Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu Val Gly
275 280 285

Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln Asn Cys
290 295 300

Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Arg Met Ala
305 310 315

<210> 53
<211> 959
<212> DNA
<213> hepatitis C virus

<400> 53
ccatgagcac gaatcctaaa cctcaaagaa aaaccaaaag aaacacccaac cgtcgcccac 60
aggacgtcaa gttccgggc ggtggtcaga tcgttggcgg agtttacttg ttgccgcga 120
ggggccctag gatgggtgtg cgcgcgactc ggaagacttc ggaacggtcg caaccccg 180
gacggcgtca gcctattccc aaggcgcc agccccacggg ccggtcctgg ggtcaacccg 240
ggtacccttg gccccttac gccaatgagg gcctcggtg ggcagggtgg ctgctctccc 300

ctcgaggctc tcggccataat tggggccccca atgaccccg gcgaaaatcg cgtaatttg	360
gtaaggtcat cgatacccta acgtgcggat tcgccgatct catgggtay atcccgctcg	420
taggcggccc crtgggggc gtcgcaaggg ctctcgacaca cggtgtgagg gtccttgggg	480
acggggtaaa ctatscaaca ggaatttac ccggttgctc tttctctatc tttattcttg	540
ctttctctc gtgtctgacc gttccggcct ctgcagttcc ctaccgaaat gcctctggga	600
tttatcatgt taccaatgtat tgcccaaact cttccatagt ctatgaggca gataacctga	660
tcctacacgc acctgggtgc gtgccttgc tcatgacagg taatgtgagt agatgctggg	720
tccaaattac ccctacactg tcagccccga gcctcgagc agtcacggct cctcttcgga	780
gagccgttga ctacctagcg ggaggggctg ccctctgctc cgcgttatac gttaggagacg	840
cgtgtggggc actattcttg gtaggccaaa tgttcaccta taggcctcgc cagcacgcta	900
cggtgcaagaa ctgcaactgt tccatttaca gtggccatgt taccggccac cggatggca	959

<210> 54
 <211> 319
 <212> PRT
 <213> hepatitis C virus

<400> 54

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn			
1	5	10	15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly			
20	25	30	

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Met Gly Val Arg Ala			
35	40	45	

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro			
50	55	60	

Ile Pro Lys Ala Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly			
65	70	75	80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Leu Gly Trp Ala Gly Trp			
85	90	95	

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro			
100	105	110	

Arg Arg Lys Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Val Asn Tyr Pro Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser Ala Val
180 185 190

Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp Cys Pro
195 200 205

Asn Ser Ser Ile Val Tyr Glu Ala Asp Asn Leu Ile Leu His Ala Pro
210 215 220

Gly Cys Val Pro Cys Val Met Thr Gly Asn Val Ser Arg Cys Trp Val
225 230 235 240

Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Leu Gly Ala Val Thr Ala
245 250 255

Pro Leu Arg Arg Ala Val Asp Tyr Leu Ala Gly Gly Ala Ala Leu Cys
260 265 270

Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu Val Gly
275 280 285

Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln Asn Cys
290 295 300

Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Arg Met Ala
305 310 315

<210> 55
<211> 354
<212> DNA
<213> hepatitis C virus

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<220>
<221> misc_feature
<222> (191)..(191)
<223> "n" is any nucleotide

<400> 55
accacccggag cttctatcac atactccact tacggcaagt tccttgctga tggagggtgt      60
tcaggcggcg cgcatgacgt gatcatatgc gacgagtgcc attcccagga cgccaccacc      120
attcttggga taggcactgt ccttgaccag gcagagacgg ctggagctag gctcgtcgtc      180
ttgccacgg ncacccctcc cgccagtgtg acaacgcccc accccaacat cgaggaagtg      240
gccctgcctc aggaggggga ggttcccttc tacggcagag ccattccct tgctttata      300
aagggtggta ggcatctcat cttctgccat tccaagaaaa attgtgatga actc      354

<210> 56
<211> 118
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (64)..(64)
<223> "Xaa" is any amino acid

<400> 56
Thr Thr Gly Ala Ser Ile Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala
1           5           10          15
Asp Gly Gly Cys Ser Gly Gly Ala His Asp Val Ile Ile Cys Asp Glu
20          25          30
Cys His Ser Gln Asp Ala Thr Thr Ile Leu Gly Ile Gly Thr Val Leu
35          40          45
Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu Ala Thr Xaa
50          55          60
Thr Pro Pro Gly Ser Val Thr Thr Pro His Pro Asn Ile Glu Glu Val
65          70          75          80
Ala Leu Pro Gln Glu Gly Glu Val Pro Phe Tyr Gly Arg Ala Ile Pro
85          90          95

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Leu Ala Phe Ile Lys Gly Gly Arg His Leu Ile Phe Cys His Ser Lys
100 105 110

Lys Asn Cys Asp Glu Leu
115

<210> 57
<211> 354
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (185)..(185)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (191)..(191)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (276)..(276)
<223> "n" is any nucleotide

<400> 57
accacccggag cttctatcac atactccact tacggcaagt tccttgctga tggagggtgt 60
tcaggcggcg cgtatgacgt gatcatatgc gacgagtgcc attcccagga cgccaccacc
attcttggga taggcactgt ccttgaccag gcagagacgg ctggagctag gctcgtcgtc 120
ttggncacgg ncacccctcc cggcagtgtg acaacgcccc accccaacat cgaggaagtg 180
gccctgcctc aggaggggga ggttcccttc tacggnagag ccattccct tgctttata 240
aagggtggta ggcatctcat cttctgccat tccaagaaaa aatgtgatga actt 300
354

<210> 58
<211> 133
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (62)..(62)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (64)..(64)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (92)..(92)
<223> "Xaa" is any amino acid

<400> 58

Thr Thr Gly Ala Ser Ile Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala
1 5 10 15

Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Val Ile Ile Cys Asp Glu
20 25 30

Cys His Ser Gln Asp Ala Thr Thr Ile Leu Gly Ile Gly Thr Val Leu
35 40 45

Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu Xaa Thr Xaa
50 55 60

Thr Pro Pro Gly Ser Val Thr Thr Pro His Pro Asn Ile Glu Glu Val
65 70 75 80

Ala Leu Pro Gln Glu Gly Glu Val Pro Phe Tyr Xaa Arg Ala Ile Pro
85 90 95

Leu Ala Phe Ile Lys Gly Gly Arg His Leu Ile Phe Cys His Ser Lys
100 105 110

Lys Lys Cys Asp Glu Leu Arg Gln Ala Thr Asp Gln Pro Gly Arg Glu
115 120 125

Arg Pro Trp Glu Tyr
130

<210> 59
<211> 357
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature

<222> (38) .. (38)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (76) .. (76)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (79) .. (79)
<223> "n" is any nucleotide

<220>
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<222> (151) .. (151)
<223> "n" is any nucleotide

<220>
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<222> (232) .. (232)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (349) .. (349)
<223> "n" is any nucleotide

<400> 59
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gttgtggcga ccctgncgnc ctactgcttg acgggtggtt cggttagccat agtcggtagg 120
atcatcctct ctggaaacc tgccatcatt nccgataggg aggtattata ccagcaattt 180
gatgagatgg aggagtgcgc ggctcggtt ccctatatgg acgaaacacg tnccattgcc 240
ggacaattca aagagaaaagt gctcggcttc atcagcacga ccggccagaa ggctgaaact 300
ctgaagccgg cagccacgta tgtgtggaac aaggctgatc agttctggnc cacatac 357

<210> 60
<211> 128
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (13) .. (13)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (26) .. (27)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (51) .. (51)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (78) .. (78)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (117) .. (117)
<223> "Xaa" is any amino acid

<400> 60

Met Ala Phe Met Ser Pro Asp Leu Glu Val Ile Thr Xaa Thr Trp Val
1 5 10 15

Leu Val Gly Gly Val Val Ala Thr Leu Xaa Xaa Tyr Cys Leu Thr Val
20 25 30

Gly Ser Val Ala Ile Val Gly Arg Ile Ile Leu Ser Gly Lys Pro Ala
35 40 45

Ile Ile Xaa Asp Arg Glu Val Leu Tyr Gln Gln Phe Asp Glu Met Glu
50 55 60

Glu Cys Ser Ala Ser Leu Pro Tyr Met Asp Glu Thr Arg Xaa Ile Ala
65 70 75 80

Gly Gln Phe Lys Glu Lys Val Leu Gly Phe Ile Ser Thr Thr Gly Gln
85 90 95

Lys Ala Glu Thr Leu Lys Pro Ala Ala Thr Ser Val Trp Asn Lys Ala
100 105 110

Asp Gln Phe Trp Xaa Thr Tyr Met Trp Asn Phe Ile Ser Gly Ile Gln

115

120

125

<210> 61
<211> 357
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (38)..(38)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (70)..(70)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (174)..(174)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (339)..(339)
<223> "n" is any nucleotide

<400> 61
atggcttgca tgtctgcgga cctggaggtc attaccanca ctgggttct ggtggggggc 60
gttgtggcgn ccctggcgcc ctactgcttg acgggtggtt cggttagccat agtcggtagg 120
atcatcctct ctggaaacc tgccatcatt cccgataggg aggattata ccancaattt 180
gatgagatgg aggagtgctc ggctcggtt ccctatatgg acgagacacg tgccattgcc 240
ggacaattca aagagaaaagt gctcggcttc atcagcacga ccggccagaa ggctgaaact 300
ctgaagccgg cagccacgtc tgtgtggaac aaggctganc agttctggc cacatac 357

<210> 62
<211> 128
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (58)..(58)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (113)..(113)
<223> "Xaa" is any amino acid

<400> 62

Met Ala Cys Met Ser Ala Asp Leu Glu Val Ile Thr Xaa Thr Trp Val
1 5 10 15

Leu Val Gly Gly Val Val Ala Xaa Leu Ala Ala Tyr Cys Leu Thr Val
20 25 30

Gly Ser Val Ala Ile Val Gly Arg Ile Ile Leu Ser Gly Lys Pro Ala
35 40 45

Ile Ile Pro Asp Arg Glu Ala Leu Tyr Xaa Gln Phe Asp Glu Met Glu
50 55 60

Glu Cys Ser Ala Ser Leu Pro Tyr Met Asp Glu Thr Arg Ala Ile Ala
65 70 75 80

Gly Gln Phe Lys Glu Lys Val Leu Gly Phe Ile Ser Thr Thr Gly Gln
85 90 95

Lys Ala Glu Thr Leu Lys Pro Ala Ala Thr Ser Val Trp Asn Lys Ala
100 105 110

Xaa Gln Phe Trp Ala Thr Tyr Met Trp Asn Phe Ile Ser Gly Ile Gln
115 120 125

<210> 63
<211> 28
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr161

<400> 63
accggaggcc aggagagtga tctcctcc 28

<210> 64
<211> 28
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr162

<400> 64
gggctgctct atcctcatcg acgccatc 28

<210> 65
<211> 28
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr163

<400> 65
gccagaggct cggaaggcga tcagcgct 28

<210> 66
<211> 28
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr164

<400> 66
gagctgctct gtcctcctcg acgcccga 28

<210> 67
<211> 20
<212> DNA
<213> artificial

<220>

<221> misc_feature
<223> HCPr23

<400> 67
ctcatggggt acattccgct 20

<210> 68
<211> 27
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr54

<400> 68
cttattaccag ttcatcatca tatccca 27

<210> 69
<211> 24
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr116

<400> 69
ttttaatac atcatgrctg yatg 24

<210> 70
<211> 33
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr66

<400> 70
cttattattgt atcccrctga tgaarttcca cat 33

<210> 71
<211> 36
<212> DNA
<213> artificial

<220>
<221> misc_feature

<223> HCP*r*118

<400> 71
actagtcgac taytgatccr ctatrwartt ccacat 36

<210> 72
<211> 25
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCP*r*117

<400> 72
ttttaatac atcgcrctgc atgca 25

<210> 73
<211> 36
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCP*r*119

<400> 73
actagtcgac tarttgata gcckrttcat ccaytg 36

<210> 74
<211> 34
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCP*r*131

<400> 74
ggaattcttag acctctggga ygaraytgga artg 34

<210> 75
<211> 31
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCP*r*130

<400> 75
ggaattcttag acgctaycar gcacgttgyg c 31

<210> 76
<211> 23
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr134

<400> 76
catatacatg cccacttcct atc 23

<210> 77
<211> 16
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr3

<400> 77
gtgtgccagg accatc 16

<210> 78
<211> 20
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr4

<400> 78
gacatgcattg tcatgatgt 20

<210> 79
<211> 29
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr152

<400> 79
tacgcctctt ctatatcggt tggggcctg 29

<210> 80
<211> 26
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCP_r52

<400> 80
atgttgggta aggtcatcga taccct 26

<210> 81
<211> 25
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCP_r41

<400> 81
cccgaggtagt ctcgttagacc gtgca 25

<210> 82
<211> 29
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCP_r40

<400> 82
ctattaaaga tagagaaaga gcaaccggg 29

<210> 83
<211> 12
<212> PRT
<213> hepatitis C virus

<400> 83

Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu
1 5 10

<210> 84
<211> 12
<212> PRT
<213> hepatitis C virus

<400> 84

Val Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val
1 5 10

<210> 85
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 85

Val Tyr Glu Ala Asp Asp Val Ile Leu His Thr
1 5 10

<210> 86
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 86

Val Tyr Glu Ala Asp Asn Leu Ile Leu His Ala
1 5 10

<210> 87
<211> 13
<212> PRT
<213> hepatitis C virus

<400> 87

Val Gln Asp Gly Asn Thr Ser Thr Cys Trp Thr Pro Val
1 5 10

<210> 88
<211> 13
<212> PRT
<213> hepatitis C virus

<400> 88

Val Met Thr Gly Asn Val Ser Arg Cys Trp Val Gln Ile
1 5 10

<210> 89

<211> 10
<212> PRT
<213> hepatitis C virus

<400> 89

Val Arg Tyr Val Gly Ala Thr Thr Ala Ser
1 5 10

<210> 90
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 90

Ala Pro Ser Leu Gly Ala Val Thr Ala Pro
1 5 10

<210> 91
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 91

Arg Pro Arg Arg His Gln Thr Val Gln Thr
1 5 10

<210> 92
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 92

Arg Pro Arg Gln His Ala Thr Val Gln Asn
1 5 10

<210> 93
<211> 9
<212> PRT
<213> hepatitis C virus

<400> 93

Gln Pro Thr Gly Arg Ser Trp Gly Gln
1 5

<210> 94
<211> 8
<212> PRT

<213> hepatitis C virus

<400> 94

Val Gln Asp Gly Asn Thr Ser Thr
1 5

<210> 95

<211> 8

<212> PRT

<213> hepatitis C virus

<400> 95

Val Gln Asp Gly Asn Thr Ser Ala
1 5

<210> 96

<211> 10

<212> PRT

<213> hepatitis C virus

<400> 96

Val Lys Tyr Val Gly Ala Thr Thr Ala Ser
1 5 10

<210> 97

<211> 20

<212> PRT

<213> hepatitis C virus

<400> 97

Leu Gly Gly Lys Pro Ala Ile Val Pro Asp Lys Glu Val Leu Tyr Gln
1 5 10 15

Gln Tyr Asp Glu
20

<210> 98

<211> 20

<212> PRT

<213> hepatitis C virus

<400> 98

Leu Gly Gly Lys Pro Ala Leu Val Pro Asp Lys Glu Val Leu Tyr Gln
1 5 10 15

Gln Tyr Asp Glu

<210> 99
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 99

Ser Gln Ala Ala Pro Tyr Ile Glu Gln Ala Gln Val Ile Ala His Gln
1 5 10 15

Phe Lys Glu Lys
20

<210> 100
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 100

Ile Ala His Gln Phe Lys Glu Lys Val Leu Gly Leu Leu Gln Arg Ala
1 5 10 15

Thr Gln Gln Gln
20

<210> 101
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 101

Ile Ala His Gln Phe Lys Glu Lys Ile Leu Gly Leu Leu Gln Arg Ala
1 5 10 15

Thr Gln Gln Gln
20

<210> 102
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 102

Leu Ser Gly Lys Pro Ala Ile Ile Pro Asp Arg Glu Ala Leu Tyr Gln
1 5 10 15

Gln Phe Asp Glu
20

<210> 103
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 103

Leu Ser Gly Lys Pro Ala Ile Ile Pro Asp Arg Glu Val Leu Tyr Gln
1 5 10 15

Gln Phe Asp Glu
20

<210> 104
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 104

Ser Ala Ser Leu Pro Tyr Met Asp Glu Thr Arg Ala Ile Ala Gly Gln
1 5 10 15

Phe Lys Glu Lys
20

<210> 105
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 105

Ile Ala Gly Gln Phe Lys Glu Lys Val Leu Gly Phe Ile Ser Thr Thr
1 5 10 15

Gly Gln Lys Ala
20

<210> 106
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 106

ctccactgta accgaaaagg acatcagggt cgaggaggag gtctatcagt gttgtgacct 60
ggagccccgaa gcccgcagg caattaccgc cctaacagag agactctacg tggcggtcc 120
catgcataaac agcaaggagg acctgtgcgg gtatcgaga tgtcgcgcaa gcggcgtcta 180
caccaccagg ttcgggaaca cactgacgtg ctacctaaa gcctcagccg ctatcaaagc 240
ggcggggctg agagactgca ccatgttggt ctgtggtgat gacctggttg tcatcgctga 300
gagcgatggc gtagaggagg acaaacgacc cctcggagcc 340

<210> 107
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 107

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Lys Ala
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Pro Leu Gly
100 105 110

Ala

<210> 108
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 108
ctccactgta accgaaaagg acatcagggt cgaggaggag gtatatcagt gttgtgacct 60
ggagccccgag gccccgcagag caattaccgc cctaacagag agactctacg tggcggtcc 120
catgcataac agcaggggag acctgtgcgg gtatcgaga tgccgtgcga gcggcgtcta 180
caccaccagc ttcgggaaca cactgacgtg ctatctaaa gcctcagccg ctatcagagc 240
ggcggggctg agagactgca ccatgttggt ctgtggtgat gacctggtcg tcattgctga 300
aagcgatggc gtagaggagg acaaacgagc cctcgagcc 340

<210> 109
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 109

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Arg Ala Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Arg Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Ala Leu Gly
100 105 110

Ala

<210> 110
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 110
ctccactgta accgaaaaag acatcagggt cgaggaggag gatatcagt gttgtgacct 60
ggagccccgaa gcccgcagg taattaccgc cctaacagag agactctatg tggcggtcc 120
catgcataat agcaaaggag acctgtgcgg gtatgcaga tgccgcgcaa gcggcgtcta 180
caccaccaggc ttccggaaaca cactgacgtg ctatctaaa gcctcagccg ccatcaggc 240
gtcagggctg agagactgca ctatgctggt ctatggtgac gacctggtcg tcattgccga 300
gagcgatggc gtagaggagg acaaacgagg cctcggagtc 340

<210> 111
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 111

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ser Gly Leu Arg Asp Cys Thr Met Leu Val Tyr Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Ala Leu Gly
100 105 110

Val

<210> 112
<211> 340
<212> DNA

<213> hepatitis C virus

<400> 112
ctccactgta accgaaaagg acatcagggt cgaggaggag gtgtatcagt gttgtgacct 60
ggagcccgag gcccgcagg caattactgc cctaacagag agactctatg tggcggtcc 120
catgcataac agcaagggag acctgtgtgg gtatcgaga tgccgcgcaa gcggcgtcta 180
caccaccagg ttcgggaaca cactgacgtg ctacctcaaa gcctcagccg ctatcagagc 240
ggcggggctg agagactgca ccatgttggt ctgtggtgat gacctggtcg tcatcgctga 300
gagcgatggc gttgaggagg acaaacgagc cctcggagcc 340

<210> 113

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 113

Ser Thr Val Thr Glu Lys Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Ala Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ala Gly Leu Arg Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Lys Arg Ala Leu Gly
100 105 110

Ala

<210> 114

<211> 340

<212> DNA

<213> hepatitis C virus

<400> 114

ctccacggtg accgaaaggg atatcaggac cgaggaagag atctaccagt gctgcgacct 60
ggagccccgaa gcccgcagg tgatatccgc cctaacggaa agactctacg tgggcggtcc 120
catgtacaac tccaaggggg acctatgcgg gcaacggagg tgccgcgcaa gcggggtcta 180
caccaccagc ttccggaaaca ctgtaacgtg ttatctcaag gccgttgcgg ctactaggc 240
cgcaggtctg aaaggttgca gcatgctggt ttgtggagac gacttagtcg tcatctgcga 300
gagcggcggc gtagaggagg atgcaagagc cctccgagcc 340

<210> 115

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 115

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Glu Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ser Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Tyr Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Gln Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Val Thr Cys Tyr Leu Lys Ala Val Ala Ala Thr Arg Ala
65 70 75 80

Ala Gly Leu Lys Gly Cys Ser Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Gly Gly Val Glu Glu Asp Ala Arg Ala Leu Arg
100 105 110

Ala

<210> 116

<211> 340
<212> DNA
<213> hepatitis C virus

<400> 116
ctccactgtg actgagagag acatcaaggc cgaagaagaa gtctatcagt gttgtatct 60
ggagccccgag gcccgcagg taatagccgc cctcacggag agactctacg tggcgccccc 120
catgcataac agcaagggag acctttgcgg gtatcgtaga tgccgcgcga gcggcgtata 180
caccaccagg ttcgggaaca caatgacgtg ctacctaag gcctcagcag ccatcaggc 240
tgccgggcta aaggattgca ccatgctggt ttgcggtgac gacctagtcg tgatgccga 300
gagcggtggc gttgaggagg acaaacgagc cctcggagct 340

<210> 117
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 117

Ser Thr Val Thr Glu Arg Asp Ile Lys Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ala Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Met Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Glu Glu Asp Lys Arg Ala Leu Gly
100 105 110

Ala

<210> 118
<211> 574
<212> DNA
<213> hepatitis C virus

<400> 118
acttgcggct ttgccgacct catggatac atcccgctcg taggcgcccc tgtgggtggc 60
gtcgccaggg ccctggcaca cggtgttagg gctgtggagg acgggatcaa ttatgcgaca 120
ggaaatcttc ccgggttgctc tttctctatc ttccctttgg cacttcttgc gtgcctgact 180
gttcccaccc cggccgtcaa ctatcgcaat gcctcggca tctatcacat caccaatgac 240
tgcccgaact cgagcatagt gtacgagacc gagcaccaca tcctacaccc cccagggtgt 300
ttaccctgcg tgaggggtgg gaatcagtca cgctgctggg tggccctcac tcccaccgtg 360
gcggcgccctt acatcggcgc tccgcttgaa tccctccgga gtcatgtgga tctgatggta 420
ggtgccgcta ctgcgtgctc cgctctttac atcggagacc tgtgcgggtgg cgtattcttg 480
gttggtcaga tgttctcttt ccagccgcgg cgccactgga ctacgcagga ctgcaatttgt 540
tccatctacg cggggcacgt tacgggccac agga 574

<210> 119
<211> 191
<212> PRT
<213> hepatitis C virus

<400> 119

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Thr Ser
50 55 60

Ala Val Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Thr Glu His His Ile Leu His
85 90 95

Leu Pro Gly Cys Leu Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys
100 105 110

Trp Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro
115 120 125

Leu Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Ala Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu
145 150 155 160

Val Gly Gln Met Phe Ser Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Ala Gly His Val Thr Gly His Arg
180 185 190

<210> 120

<211> 574

<212> DNA

<213> hepatitis C virus

<400> 120

acgtgcggct ttgccgacct catggatac atcccgctcg tggcgcccc tgtgggtggc 60

gtcgccaggg ctttggcaca tggtgtcagg gccgtggagg acgggattaa ctatgcaaca 120

ggaaatcttc ccggttgctc cttttctatc ttccttctag cacttctctc gtgcttgact 180

gtcccgccct cggcgcagca ctaccggaac atctcggca tttatcacgt caccaatgac 240

tgcccgaact ctatgtatgt gtatgaagct gaccatcata tcatgcacatc accagggtgt 300

gtgccttgcg tgagaaccgg gaacacctcg cgctgctggg ttcctttaac acccactgtg 360

gctgccccct atgttggcgc gccgctcgaa tccatgcggc ggcacgtgga cttaatggtg 420

ggtgccgcca ccgtctgctc gcccctgtac atcggagacc tttgcccggagg tgtcttcctg 480

gtcggcaga tgttcacctt ccggccgcgc cgccattgga ctacccagga ctgcaactgc 540

tctatctatg atggccacat caccggccat agaa 574

<210> 121

<211> 191

<212> PRT

<213> hepatitis C virus

<400> 121

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Gln His Tyr Arg Asn Ile Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Met His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Thr Ser Arg Cys
100 105 110

Trp Val Pro Leu Thr Pro Thr Val Ala Ala Pro Tyr Val Gly Ala Pro
115 120 125

Leu Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Val Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Phe Arg Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Asp Gly His Ile Thr Gly His Arg
180 185 190

<210> 122

<211> 574

<212> DNA

<213> hepatitis C virus

<400> 122

acgtgcggct tcgcccacct catggatac atccccctcg tgggcgcccc cgttggggc

60

gtcgccaggg	ccctggcgca	tggcgtcagg	gctgtggagg	acgggattaa	ctatgcaca	120
gggaatcttc	ccgggttgc	tttctctatc	ttcctcctgg	cacttcttc	gtgcctcact	180
gtcccagcgt	cagctgagca	ctaccggaat	gcttcggca	tctatcacat	caccaatgac	240
tgtccgaatt	ccagcgtagt	ctatgaaact	gaccaccata	tattgcactt	gccggggtgc	300
gtaccctgcg	tgagggccgg	gaacgtgtct	cgttgctgga	cgccggtaac	acctacggtg	360
gctgccgtat	ccatggacgc	tccgctcgag	tcctccggc	ggcatgtgga	cctaattgta	420
ggtgcggcca	ccgtgtgttc	tgtcctctat	gttggagacc	tctgtggagg	tgcttccta	480
gtggggcaga	tgttcacctt	ccagccgcgt	cgccactgga	ccacgcagga	ttgtaattgc	540
tccatctata	ctggccatat	caccggccac	agga			574

<210> 123

<211> 191

<212> PRT

<213> hepatitis C virus

<400> 123

Thr	Cys	Gly	Phe	Ala	Asp	Leu	Met	Gly	Tyr	Ile	Pro	Leu	Val	Gly	Ala
1					5				10					15	

Pro	Val	Gly	Gly	Val	Ala	Arg	Ala	Leu	Ala	His	Gly	Val	Arg	Ala	Val
				20				25				30			

Glu	Asp	Gly	Ile	Asn	Tyr	Ala	Thr	Gly	Asn	Leu	Pro	Gly	Cys	Ser	Phe
				35			40					45			

Ser	Ile	Phe	Leu	Leu	Ala	Leu	Leu	Ser	Cys	Leu	Thr	Val	Pro	Ala	Ser
				50			55			60					

Ala	Glu	His	Tyr	Arg	Asn	Ala	Ser	Gly	Ile	Tyr	His	Ile	Thr	Asn	Asp
				65			70		75			80			

Cys	Pro	Asn	Ser	Ser	Val	Val	Tyr	Glu	Thr	Asp	His	His	Ile	Leu	His
				85			90				95				

Leu	Pro	Gly	Cys	Val	Pro	Cys	Val	Arg	Ala	Gly	Asn	Val	Ser	Arg	Cys
				100			105				110				

Trp	Thr	Pro	Val	Thr	Pro	Thr	Val	Ala	Ala	Val	Ser	Met	Asp	Ala	Pro
				115			120			125					

Leu Glu Ser Phe Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Val Cys Ser Val Leu Tyr Val Gly Asp Leu Cys Gly Gly Ala Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg
180 185 190

<210> 124
<211> 31
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr206.

<400> 124
tggggatccc gtatgatacc cgctgctttg a 31

<210> 125
<211> 30
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr207

<400> 125
ggcggaattc ctggtcatag cctccgtgaa 30

<210> 126
<211> 12
<212> PRT
<213> hepatitis C virus

<400> 126

Val Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile
1 5 10

<210> 127
<211> 12
<212> PRT
<213> hepatitis C virus

<400> 127

Gln His Tyr Arg Asn Ile Ser Gly Ile Tyr His Val
1 5 10

<210> 128
<211> 12
<212> PRT
<213> hepatitis C virus

<400> 128

Glu His Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile
1 5 10

<210> 129
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 129

Val Tyr Glu Thr Glu His His Ile Leu His Leu
1 5 10

<210> 130
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 130

Val Tyr Glu Ala Asp His His Ile Met His Leu
1 5 10

<210> 131
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 131

Val Tyr Glu Thr Asp His His Ile Leu His Leu
1 5 10

<210> 132
<211> 13

<212> PRT
<213> hepatitis C virus

<400> 132

Val Arg Val Gly Asn Gln Ser Arg Cys Trp Val Ala Leu
1 5 10

<210> 133
<211> 13
<212> PRT
<213> hepatitis C virus

<400> 133

Val Arg Thr Gly Asn Thr Ser Arg Cys Trp Val Pro Leu
1 5 10

<210> 134
<211> 13
<212> PRT
<213> hepatitis C virus

<400> 134

Val Arg Ala Gly Asn Val Ser Arg Cys Trp Thr Pro Val
1 5 10

<210> 135
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 135

Ala Pro Tyr Ile Gly Ala Pro Leu Glu Ser
1 5 10

<210> 136
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 136

Ala Pro Tyr Val Gly Ala Pro Leu Glu Ser
1 5 10

<210> 137
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 137

Ala Val Ser Met Asp Ala Pro Leu Glu Ser
1 5 10

<210> 138
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 138

Gln Pro Arg Arg His Trp Thr Thr Gln Asp
1 5 10

<210> 139
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 139

Arg Pro Arg Arg His Trp Thr Thr Gln Asp
1 5 10

<210> 140
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 140

Arg Pro Arg Arg His Trp Thr Thr Gln Asp
1 5 10

<210> 141
<211> 23
<212> DNA
<213> artificial

<220>
<221> misc_feature
<223> HCPr109

<400> 141
tggatatga tcatgcactg gtc

23

<210> 142
<211> 24
<212> DNA

<213> artificial

<220>

<221> misc_feature

<223> HCPr14

<400> 142

ccaggtacaa ccgaaccaat tgcc

24

<210> 143

<211> 957

<212> DNA

<213> hepatitis C virus

<400> 143

atgagcacaa atcctaaacc tcaaagaaaa accaaaagaa acactaaccg cgcggccacag 60

gacgtcaagt tcccgccgg tggccagatc gttggggag tatacttgg tccgcgcagg 120

ggccccccgt tgggtgtgcg cgcgacgagg aaaacttccg agcggtccc gacgtggg 180

aggcgccagc ccatccccaa agatcgccgc cccactggca agtcctgggg aaaaccagga 240

tacccttggc ccctgtacgg gaatgagggc ctggctggg cagggtggt cctgtcccc 300

cggggtctc gcccgtcatg gggcccaact gaccccccgc acaggtcactg caacttgggt 360

aaggtcatcg atacccttac gtgtggctt gccgacctca tgggtacat ccctgtcg 420

ggcgccccag ttgggtgtgt cgccagagct ctcgcgcatt gcgtgagagt tctggaaagac 480

gggataaaact atgcaacagg gaacttgcgc ggttgcctt tttctatctt cttattggcc 540

ctgctatctt gtatcactgt gccggctcc ggcttgcagg tcaagaacac cagcagctct 600

tacatggtaa ccaatgactg ccagaacagt agcatcgct ggcagctcag ggatgctgtt 660

cttcacgtcc ccgggtgtgt cccttgttag gagaaggca acatatcccg ctgttggata 720

ccggtttcgc ccaatatagc tgtgagccaa cctggcgc ttaccaaggg cctgcggacg 780

catattgata ccatcattgc atccgctacg ttttgcctg ccctgtacat aggagacctg 840

tgtggcgcgg tggatgttggc ttctcaagtc ttcatcatct cgcccccagca tcataagtt 900

gtccaggact gcaactgttc catataccca ggccacatca ctggacatcg gatggcg 957

<210> 144

<211> 319

<212> PRT

<213> hepatitis C virus

<400> 144

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Asp Arg Arg Pro Thr Gly Lys Ser Trp Gly Lys Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro
100 105 110

Arg His Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Val Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
165 170 175

Phe Leu Leu Ala Leu Leu Ser Cys Ile Thr Val Pro Val Ser Gly Leu
180 185 190

Gln Val Lys Asn Thr Ser Ser Tyr Met Val Thr Asn Asp Cys Gln
195 200 205

Asn Ser Ser Ile Val Trp Gln Leu Arg Asp Ala Val Leu His Val Pro
210 215 220

Gly Cys Val Pro Cys Glu Glu Lys Gly Asn Ile Ser Arg Cys Trp Ile

225 230 235 240

Pro Val Ser Pro Asn Ile Ala Val Ser Gln Pro Gly Ala Leu Thr Lys
245 250 255

Gly Leu Arg Thr His Ile Asp Thr Ile Ile Ala Ser Ala Thr Phe Cys
260 265 270

Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Ala Val Met Leu Ala Ser
275 280 285

Gln Val Phe Ile Ile Ser Pro Gln His His Lys Phe Val Gln Asp Cys
290 295 300

Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala
305 310 315

<210> 145

<211> 340

<212> DNA

<213> hepatitis C virus

<400> 145

ctcaacggtc acggagaggg acatcagaac tgaggagtcc atataccttg cttgctctt 60

accgagcag gcacggactg ccatacactc actgactgag aggcttacg tgggagggcc 120

catgctaaac agcaaaggc aaacctgcgg atacagacgc tgccgcgcca gcggagtgtt 180

caccactagc atggaaata ccatcacgtg ctacgtgaag gcacaagcag cctgtaaggc 240

tgcggcata attgccccca cgatgctggt gtgcggcgac gatctagttg tcatctcaga 300

gagtcagggg accgaggagg acgagcggaa cctacgagcc 340

<210> 146

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 146

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Leu
1 5 10 15

Ala Cys Ser Leu Pro Glu Gln Ala Arg Thr Ala Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Leu Asn Ser Lys Gly Gln Thr
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Val Lys Ala Gln Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Ile Ala Pro Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Gln Gly Thr Glu Glu Asp Glu Arg Asn Leu Arg
100 105 110

Ala

<210> 147
<211> 345
<212> DNA
<213> hepatitis C virus

<400> 147
atgagcacac ttcctaaacc acaaagaaaa accaaaagaa acaccaaccc cggccacagg 60
acgttaagtt cccaggcggc ggtcagatcg ttggtgaggt ttacgtgcta ccacgcaggg 120
gcccccagtt gggtgtgcgt gcagtgcgca agacttccga gcggtcgcaa cctcgcagta 180
ggcgccaacc catccccagg gcgcgccgaa ccgagggcag gtcctgggct cagcccggt 240
acccttggcc cctatatggg aatgagggct gcgggtgggc agggtggctc ctgtccccgc 300
gcggctctcg cccgtcgtgg ggcccaaatg acccccgcg cagga 345

<210> 148
<211> 115
<212> PRT
<213> hepatitis C virus

<400> 148

Met Ser Thr Leu Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Pro Gly His Arg Thr Leu Ser Ser Gln Ala Ala Val Arg Ser Leu Val
20 25 30

Glu Phe Thr Cys Tyr His Ala Gly Ala Pro Ser Trp Val Cys Val Gln
35 40 45

Cys Ala Arg Leu Pro Ser Gly Arg Asn Leu Ala Val Gly Ala Asn Pro
50 55 60

Ser Pro Gly Arg Ala Glu Pro Arg Ala Gly Pro Gly Leu Ser Pro Gly
65 70 75 80

Thr Leu Gly Pro Tyr Met Gly Met Arg Ala Ala Gly Gly Gln Gly Gly
85 90 95

Ser Cys Pro Arg Ala Ala Leu Ala Arg Arg Gly Ala Gln Met Thr Pro
100 105 110

Gly Ala Gly
115

<210> 149
<211> 280
<212> DNA
<213> hepatitis C virus

<400> 149
ggcctgtgac ctcaggacg aggctaggag ggtgataact tcactcacgg agcggttta 60
ctgtggtgt cctatgttca acagcaaggg acaacactgc gtttaccgcc gctgccgtgc 120
tagtgggtg ctacccacca gttcggaa cacaatcacc tgttacatca aagcaaaggc 180
agctacaaa gctgccggaa taaaaatcc atcattcctt gtctgcggag atgacttggt 240
cgtgattgct gagagtgcag ggatcgatga ggacagagcg 280

<210> 150
<211> 93
<212> PRT
<213> hepatitis C virus

<400> 150

Ala Cys Asp Leu Lys Asp Glu Ala Arg Arg Val Ile Thr Ser Leu Thr
1 5 10 15

Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly Gln His
20 25 30

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr Ser Phe
35 40 45

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Lys Ala Ala Thr Lys Ala
50 55 60

Ala Gly Ile Lys Asn Pro Ser Phe Leu Val Cys Gly Asp Asp Leu Val
65 70 75 80

Val Ile Ala Glu Ser Ala Gly Ile Asp Glu Asp Arg Ala
85 90

<210> 151
<211> 499
<212> DNA
<213> hepatitis C virus

<400> 151
atgagcacga atcctaaacc tcaaagaaaa accaaaagaa acaccaaccc tcgcccacag 60
gacgtcaagt tccccggcg gggtcagatc gttggcgag tttacttggt gccgcgcagg 120
ggcccttagga tgggtgtcg cgcgactcgg aagacttcgg aacggtcgca accccgtgga 180
cggcgtcagc ctattccaa ggcgcgccag cccacgggcc ggtcctgggg tcaacccggg 240
tacccttggc ccctttacgc caatgagggc ctcgggtggg cagggtgtggct gctctccct 300
cgaggctctc ggcctaattg gggcccaat gaccccccggc gaaaatcgcg taatttgggt 360
aaggcatcg ataccctaac gtgcggattc gccgatctca tgggtatat cccgctcgta 420
ggcggcccca ttggggcggt cgcaagggt ctcgcacacg gtgtgagggt cttgaggac 480
gggttaact atgcaacag 499

<210> 152
<211> 166
<212> PRT
<213> hepatitis C virus

<400> 152

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Met Gly Val Arg Ala

35

40

45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Gln Pro Thr Gly Arg Ser Trp Gly Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Ala Asn Glu Gly Leu Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Asn Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Lys Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly Pro Ile
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
145 150 155 160

Gly Val Asn Tyr Ala Thr
165

<210> 153
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 153
acgtgcggat tcgcccgtatct catggggtaac atccccctcg taggcggccccc cgttgggggc 60
gtcgcaaggg ctctcgacaca cggtgtgagg gtccttgagg acggggtaaa ctatccaaca 120
ggaaatttac ccggttgctc tttctctatac tttattcttg ctcttctctc gtgtctgacc 180
gttccggcct ctgcagttcc ctaccgaaat gcctctggga tttatcatgt taccaatgtat 240
tgcccaaact cttccatagt ctatgaggca gataacctga tcctacacgc acctgggtgc 300
gtgccttgtg tcatgacagg taatgtgagt agatgctggg tccaaattac ccctacactg 360
tcagccccga gcctcgagc agtcacggct cctcttcgga gagccgttga ctaccttagcg 420
ggaggggctg ccctctgctc cgcgttatac gtaggagacg cgtgtggggc actattcttgc 480

gtaggccaaa tgttcaccta taggcctcgc cagcacgcta cggtgcagaa ctgcaactgt 540
tccatttaca gtggccatgt taccggccac cgatatggcg 579

<210> 154
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 154

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Gly
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu
20 25 30

Glu Asp Gly Val Asn Tyr Pro Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Val Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Asn Leu Ile Leu His
85 90 95

Ala Pro Gly Cys Val Pro Cys Val Met Thr Gly Asn Val Ser Arg Cys
100 105 110

Trp Val Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Leu Gly Ala Val
115 120 125

Thr Ala Pro Leu Arg Arg Ala Val Asp Tyr Leu Ala Gly Gly Ala Ala
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln
165 170 175

Asn Cys Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Arg Met

180

185

190

Ala

<210> 155
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 155
acgtgcggat tcgcccacct cgtggggta atcccgctcg taggcggccc cgttggggc 60
gtcgcaaggg ctctcgaca tggtgtgagg gttcttgagg acggggtgaa ttatgcaaca . 120
gggaatctgc ctgggtgctc tttctctatc ttcattcttgc cacttctctc gtgcctcact 180
gtccccggcct ctgcagttcc ctaccgaaat gcctctggga tctatcatgt caccaatgat 240
tgcccaaact cttccatagt ctatgaggca gatgatctga tcctacacgc acctggctgc 300
gtgccttgtg tcagggaaaga taatgtgagt aggtgctggg tccaaattac ccccacgctg 360
tcagccccga gcttcggagc agtcacggct ccccttcgga gagccgttga ttacttggtg 420
ggaggggctg ccctctgctc cgcgttatac gttggagacg cgtgtggggc actattttg 480
gtaggccaaa tgttcaccta taggcctcgc cagcatgcta cggtgcagga ctgcaactgt 540
tccatctaca gtggccacgt caccggccat cagatggca 579

<210> 156
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 156

Thr Cys Gly Phe Ala Asp Leu Val Gly Tyr Ile Pro Leu Val Gly Gly
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu
20 25 30

Glu Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Val Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Leu Ile Leu His
85 90 95

Ala Pro Gly Cys Val Pro Cys Val Arg Lys Asp Asn Val Ser Arg Cys
100 105 110

Trp Val Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Phe Gly Ala Val
115 120 125

Thr Ala Pro Leu Arg Arg Ala Val Asp Tyr Leu Val Gly Gly Ala Ala
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Gln Met
180 185 190

Ala

<210> 157
<211> 530
<212> DNA
<213> hepatitis C virus

<400> 157
cacctacgac agctctgctg gtggcccaagt tactgcggat tccccaaagt gtcattgaca 60
tcatcgccagg gagccactgg ggggtcttgc ttgccgcgc atactatgca tcgggtggcta 120
actggaccaa ggtcgtgctg gtcttgtttc tgttgcagg ggttgatgct actaccaga 180
tttcggcgg ctccagcgcc caaacgacgt atggcatcgc ctcatttatac acccgccg 240
cgcagcagaa actgcagctc ataaatacca acggaagctg gcacatcaac aggaccgccc 300
ttaattgtaa tgacagcctc cagactgggt tcatagccgg cctttctac taccataagt 360
tcaactcttc tggatgcccgg gatcgatgg ctagctgttag ggcccttgcc acttttgacc 420
aggcgtgggg aactatcagc tatgccaaca tatcggtcc cagtgtatgac aaaccatatt 480

gctggcacta tccccacgg ccgtgcggag tggtgccagc ccaagaggc 530

<210> 158
<211> 176
<212> PRT
<213> hepatitis C virus

<400> 158

Pro Thr Thr Ala Leu Leu Val Ala Gln Leu Leu Arg Ile Pro Gln Val
1 5 10 15

Val Ile Asp Ile Ile Ala Gly Ser His Trp Gly Val Leu Phe Ala Ala
20 25 30

Ala Tyr Tyr Ala Ser Val Ala Asn Trp Thr Lys Val Val Leu Val Leu
35 40 45

Phe Leu Phe Ala Gly Val Asp Ala Thr Thr Gln Ile Ser Gly Gly Ser
50 55 60

Ser Ala Gln Thr Thr Tyr Gly Ile Ala Ser Phe Ile Thr Arg Gly Ala
65 70 75 80

Gln Gln Lys Leu Gln Leu Ile Asn Thr Asn Gly Ser Trp His Ile Asn
85 90 95

Arg Thr Ala Leu Asn Cys Asn Asp Ser Leu Gln Thr Gly Phe Ile Ala
100 105 110

Gly Leu Phe Tyr Tyr His Lys Phe Asn Ser Ser Gly Cys Pro Asp Arg
115 120 125

Met Ala Ser Cys Arg Ala Leu Ala Thr Phe Asp Gln Gly Trp Gly Thr
130 135 140

Ile Ser Tyr Ala Asn Ile Ser Gly Pro Ser Asp Asp Lys Pro Tyr Cys
145 150 155 160

Trp His Tyr Pro Pro Arg Pro Cys Gly Val Val Pro Ala Gln Glu Val
165 170 175

<210> 159
<211> 340

<212> DNA

<213> hepatitis C virus

<400> 159

ctcgaccgtt accgaacatg acataatgac cgaagagtcc atttaccaat catgtgactt
gcagccccgag gcacgcgcag caatacggtc actcacccaa cgccctctact gtggaggccc 60
catgtacaac agcaaggggc aacagtgtgg ttatgcaga tgccgcgcca gcggcggttt 120
caccaccagt atgggcaaca ccatgacgtg ctacatcaag gcttagcct cctgtagagc 180
cgcaaggctc cgggactgca cgctcctgggt gtgtggtgcac gatcttgg 300
gagccagggg acacacgagg atgaagcaag cctgagagcc 340

<210> 160

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 160

Ser Thr Val Thr Glu His Asp Ile Met Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Ser Cys Asp Leu Gln Pro Glu Ala Arg Ala Ala Ile Arg Ser Leu Thr
20 25 30

Gln Arg Leu Tyr Cys Gly Gly Pro Met Tyr Asn Ser Lys Gly Gln Gln
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Leu Ala Ser Cys Arg Ala
65 70 75 80

Ala Arg Leu Arg Asp Cys Thr Leu Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Ala Ile Cys Glu Ser Gln Gly Thr His Glu Asp Glu Ala Ser Leu Arg
100 105 110

Ala

<210> 161

<211> 340
<212> DNA
<213> hepatitis C virus

<400> 161
ctcaaccgcc accgaacatg acatattgac tgaagagtcc atataccaat catgtgactc 60
gcagccccgac gcacgcgcag caatacggtc actcacccaa cgcttggttct gtggaggccc 120
catgtataac agcaaggggc aacaatgtgg ttatcgaga tgccgcgcca gcggcgtctt 180
caccaccagt atgggcaaca ccatgacgtg ctacattaag gcttagcct cctgtagaac 240
cgctgggctc cgggactaca cgctcctgggt gtgtggtgac gatcatgtgg ccatctgcga 300
gagccagggg acacacgagg atgaagcgaa cctgagagcc 340

<210> 162
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 162

Ser Thr Ala Thr Glu His Asp Ile Leu Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Ser Cys Asp Ser Gln Pro Asp Ala Arg Ala Ala Ile Arg Ser Leu Thr
20 25 30

Gln Arg Leu Phe Cys Gly Gly Pro Met Tyr Asn Ser Lys Gly Gln Gln
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Leu Ala Ser Cys Arg Thr
65 70 75 80

Ala Gly Leu Arg Asp Tyr Thr Leu Leu Val Cys Gly Asp Asp His Val
85 90 95

Ala Ile Cys Glu Ser Gln Gly Thr His Glu Asp Glu Ala Asn Leu Arg
100 105 110

Ala

<210> 163
<211> 499
<212> DNA
<213> hepatitis C virus

<400> 163
atgagcacga atcctaaact tcaaagaaaa accaaacgta acaccaaccg ccgcggccatg 60
gacgttaagt tcccggtgg tggccagatc gttggcggag tttacttggt gccgcgcagg 120
ggcccttaggt tgggtgtgcg cgcgactcg 180
aggcgccaac ctatccccaa ggccgcggca tccgagggca gatcctggc gcagcccg 240
tatccttggc cccttacgg caatgagggc tgtgggtggg cagggtggt cctgtcccct 300
cgccgggtctc ggccgtcttgg 360
aaggtcatcg ataccctaac atgcggcttc gccgaccta tggatacat cccgcttgc 420
ggcgcccccg tgggtggcgt cgccagagcc ctggcacacg gtgttagggc tgtgaaagac 480
gggatcaact acgcaacag 499

<210> 164
<211> 166
<212> PRT
<213> hepatitis C virus

<400> 164

Met Ser Thr Asn Pro Lys Leu Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro

100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val Glu Asp
145 150 155 160

Gly Ile Asn Tyr Ala Thr
165

<210> 165
<211> 499
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (306)..(306)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (313)..(313)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (340)..(340)
<223> "n" is any nucleotide

<400> 165
atgagcacga atcctaaacc tcaaagaaaa accaaacgt aacccaaccc ccccccstatg 60
gacgttaagt tcccgaggcg tggtcagatc gttggcgag tttacttggt gcccgcagg 120
ggccccaggt tgggtgtgcg cgcgactcgg aagacttcgg agcggtcgca acctcgtggg 180
aggcgccaaac ctatccccaa ggcgcgcccga accgagggca gatcctggc gcagccccggg 240
tatccttggc cccttacgg caatgagggc tgtgggtggg cagggtggct cctgtcccc 300
cgcgntctc ggncgtctg gggccccat gatccccgn ggagatcccg caacttgggt 360
aaggtcatcg ataccctaac atgcggcttc gccgaccta tggatacat cccgcttgc 420

ggcgcccccg tgggtggcgt cgccagggcc ctggcacatg gtgttagggc tgtggaagac	480
gggatcaatt atgcaacag	499

<210> 166
<211> 126
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (102)..(102)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (105)..(105)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (114)..(114)
<223> "Xaa" is any amino acid

<400> 166

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Thr Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Xaa Ser Arg Xaa Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg Xaa Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu
115 120 125

<210> 167
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 167
acatgcggct tcgcccacct catggatac atcccgcttg taggcgcccc cgtgggtggc 60
gtcgccaggg ccctggcaca tgggtttagg gctgtggaag acgggatcaa ttatgcaaca 120
gggaaccttc ccggttgctc cttttctatac ttccctttgg cgctcctctc gtgcctgact 180
gttcccacat cggccgttaa ctatcgcaat gcttcggca tttatcacat caccaatgac 240
tgcccgaatg caagcatagt gtacgagacc gaaaatcaca tcttacacact cccagggtgc 300
gtaccctgtg tgaggactgg gaaccagtcg cggtgttggg tggccctcac tcccacagta 360
gcgtcgccat acgcccgtgc tccgctttag cccctgcggc gtcatgtgga cctgatggta 420
ggtgctgcca ccatgtgttc cggccctcac atcggcgact tgtgcggtgg cttattcttg 480
gtggccaaa tggcacctt ccaaccgcga cgtcactgga ccactcagga ctgcaattgt 540
tccatctaca cggccacat tacgggtcat cggatggca 579

<210> 168
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 168

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Ser Cys Leu Thr Val Pro Thr Ser
50 55 60

Ala Val Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp
65 70 75 80

Cys Pro Asn Ala Ser Ile Val Tyr Glu Thr Glu Asn His Ile Leu His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys
100 105 110

Trp Val Ala Leu Thr Pro Thr Val Ala Ser Pro Tyr Ala Gly Ala Pro
115 120 125

Leu Glu Pro Leu Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Met Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Leu Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 169

<211> 579

<212> DNA

<213> hepatitis C virus

<400> 169

acatgcggct tcgcccacct catggatac atcccgcttg taggcgc(ccc cgtgggtggc 60

gtcgccagag ccctggcaca cggtgttagg gctgtggaag acgggatcaa ctacgcaaca 120

ggaaatctcc ccgggttgctc cttttctatac ttcccttgg cacttctctc gtgcctcact 180

gttccccgtt cgggcgttaa ctatcgcaat gcttcggcg tttatcacat caccaacgac 240

tgcccgaatg cgagcatagt gtacgagacc gacaatcaca tcttacacct cccagggtgc 300

gtaccctgtg tgaagaccgg gaaccagtcg cggtgttggg tggccctcac tcccacagtgc 360

gcgtcgccct acgtcggtgc tccgctcgag cccttgcggc gccatgtgga cctgatggta 420

ggtgctgcca ccgtgtgctc cgccctctac gtcggcgacc tgtgcggtgg cttattcttg 480

gtaggccaaa tgttcacctt ccaaccgcga cgccactgga cgacccagga ctgtaattgt 540

tccatctacg cagggcatat tacgggccat cgatggct

579

<210> 170
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 170

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Gly Val Asn Tyr Arg Asn Ala Ser Gly Val Tyr His Ile Thr Asn Asp
65 70 75 80

Cys Pro Asn Ala Ser Ile Val Tyr Glu Thr Asp Asn His Ile Leu His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Lys Thr Gly Asn Gln Ser Arg Cys
100 105 110

Trp Val Ala Leu Thr Pro Thr Val Ala Ser Pro Tyr Val Gly Ala Pro
115 120 125

Leu Glu Pro Leu Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Val Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Leu Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Ala Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 171
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 171
acatgcggct tcgcccacct catgggatac atcccccttg tgggcgcccc tgttgggtggc 60
gtcgccagag cccttgcgca cggcgtcagg gctgtggaag acgggattaa ctatgcaaca 120
ggaaaccttc ctgggtgctc cttttctatc ttccttctgg cacttctctc gtgcctgact 180
gtccccgcct cggctgtgca ttatcacaac acctcggca tctaccacct caccaatgac 240
tgccctaact ctagcatagt ctttgaggca gtccatcaca tcttgcacct tccaggatgc 300
gtcccttgtg taagaactgg gaaccagtct cggtgctggg tagccttgcac ccccacgctg 360
gccgcgccat accttggcgc tccactcgag tccatgcggc gtcacgtgga tttgatggtg 420
ggcactgcta cattgtgctc agcactctac gttggggacc tgtgcggggg catattccta 480
gcgggcccaga tggcacctt cggccccgc ctccattgga ccacccagga gtgcaattgt 540
tccacctatc cggccacat cacgggtcat agaatggcg 579

<210> 172
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 172

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Val His Tyr His Asn Thr Ser Gly Ile Tyr His Leu Thr Asn Asp

65

70

75

80

Cys Pro Asn Ser Ser Ile Val Phe Glu Ala Val His His Ile Leu His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys
100 105 110

Trp Val Ala Leu Thr Pro Thr Leu Ala Ala Pro Tyr Leu Gly Ala Pro
115 120 125

Leu Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Thr Ala Thr
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Ile Phe Leu
145 150 155 160

Ala Gly Gln Met Phe Thr Phe Arg Pro Arg Leu His Trp Thr Thr Gln
165 170 175

Glu Cys Asn Cys Ser Thr Tyr Pro Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 173
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 173
acgtgcgggtt cgcggcggactt catggataac atcccgctcg taggcgcggcc tgtgggtggc 60
gtcgccaggc cttggcgca tggcgtcagg gctgtggagg acgggataaa ctatgcaaca 120
ggaaaccttc ctggttgttc tttttctatac ttcccttctgg cacttctctc gtgcctgact 180
gtccccggct cagcttgca ttatcacaac acctcgggca tctatcacat cactaatgac 240
tgcccttaact ctagcatagt ctttgaggca gagcatcaca tcttgcatct tccaggatgc 300
gtccccctgtg tgagaactgg gaaccagtca cgatgctgga tagccttgac ccctacgttg 360
gccgcgccac acattggcgc tccacttgag tccatgcac gtcatgtgga tttgatggta 420
ggcactgcca cattgtgctc cgactctac attggagatc tgtgcggagg catatttcta 480

gtggccaga tggcaactt caggccccgc ctgcactgga ccacccagga gtgcaattgt 540
tccatctatc caggccacat cacgggtcac agaatggcg 579

<210> 174
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 174

Thr Cys Gly Ser Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Val His Tyr His Asn Thr Ser Gly Ile Tyr His Ile Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Phe Glu Ala Glu His His Ile Leu His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys
100 105 110

Trp Ile Ala Leu Thr Pro Thr Leu Ala Ala Pro His Ile Gly Ala Pro
115 120 125

Leu Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Thr Ala Thr
130 135 140

Leu Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Ile Phe Leu
145 150 155 160

Val Gly Gln Met Phe Asn Phe Arg Pro Arg Leu His Trp Thr Thr Gln
165 170 175

Glu Cys Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met

180

185

190

Ala

<210> 175
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 175
acgtgcggct ttgccgacct catggatac atcccgctcg tggcgcccc tgtgggtggc 60
gtcgccaggc ccttggcaca tggtgtcagg gccgtggagg acgggattaa ctatgcaaca 120
gggaatcttc ccggttgctc ctttctatac ttccttctag cacttctctc gtgcttgact 180
gtcccggcct cggcgcagca ctaccggaac atctcggca tttatcacgt caccaatgac 240
tgcccgaact ctagtatagt gtagaagct gaccatcata tcatgcatac accagggtgt 300
gtgccttgcg tgagaaccgg gaacacctcg cgctgctggg ttccttaac acccactgtg 360
gctgccccct atgttggcgc gccgctcgaa tccatgcggc ggcacgtgga cttaatggtg 420
ggtgccgcca ccgtctgctc gcccctgtac atcggagacc tttgcggagg tgtcttcctg 480
gtcgggcaga tgttcacctt ccggccgcgc cgccattgga ctacccagga ctgcaactgc 540
tctatctatg atggccacat caccggccat agaatggct 579

<210> 176
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 176

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Gln His Tyr Arg Asn Ile Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Met His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Thr Ser Arg Cys
100 105 110

Trp Val Pro Leu Thr Pro Thr Val Ala Ala Pro Tyr Val Gly Ala Pro
115 120 125

Leu Glu Ser Met Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Val Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Phe Arg Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Asp Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 177
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 177
acgtgcgggt tcgcccacct catggatac atcccgctcg tgggcgctcc agtaggaggc 60
gtcgccagag ctttggcgca tggcgtcagg gctgtggagg acgggatcaa ttacgcaaca 120
ggaaaccttc ccggctgctc cttttctatc ttcctcttgg tacttctctc gcgcctaact 180
gtccccagct ctgctcagca ctaccggaaat gcatcggca tctaccatgt caccaacgac 240
tgccccaaact ccagtattgt gtatgaagcc gaccatcaca tcatgcacct accccgggtgt 300
gtgccctgtg taagaactgg gaatgtctcg cggtgctgga ttcctttaac acccactgt 360
gccgtccccct acctcggggc tccacttacg tctgtacggc agcatgtgga cctgatggtg 420
ggggcggcca ccttatgctc tgccctctac atcggagacc attgcggagg tgtcttctg 480

gcagggcaga tggtcagttt ccaaccccg cgtcattgga ctaccaggaa ttgcaactgt 540
tccatctatg tgggccacat caccggccac aggatggcc 579

<210> 178
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 178

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Val Leu Leu Ser Arg Leu Thr Val Pro Ala Ser
50 55 60

Ala Gln His Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Met His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Val Ser Arg Cys
100 105 110

Trp Ile Pro Leu Thr Pro Thr Val Ala Val Pro Tyr Leu Gly Ala Pro
115 120 125

Leu Thr Ser Val Arg Gln His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Leu Cys Ser Ala Leu Tyr Ile Gly Asp His Cys Gly Gly Val Phe Leu
145 150 155 160

Ala Gly Gln Met Val Ser Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Val Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 179
<211> 579
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (568) .. (579)
<223> "n" is any nucleotide

<400> 179
acctgcggct tcgcccacct catggataac atcccgctcg taggcgcccc cgtggaggc 60
gtcgccagar ctctggcgca tggcgtcagg gctctggaag acgggatcaa ttatgcaaca 120
ggaaatcttc ctggttgctc tttctctatc tcccttcttg aacttctctc gtgcctgact 180
gttcccgccct cagccatcca statcgcaat gcttcggacg gttattatat caccaatgat 240
tgcccgaact ctagcatagt gtatgaagcc gagaaccaca tcttgcacct tccgggtgt 300
ataccctgtg tgaagaccgg gaatcagtgc cggtgctggg tggctctcac ccccacgctg 360
gcggcccccac acctacgtgc tccgctttcg tccttacggg cgcattgtgga cctaattgg 420
ggggccgcca cggcatgctc cgcttttac attggagatc tgtgcggggg tgtgttttg 480
gcgggccaac tgttcactat ccggccacgc attcatgaaa ccactcagga ctgcaattgc 540
tccatctact cagggcacat cacggtnnn nnnnnnnnn 579

<210> 180
<211> 193
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (24) .. (24)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (190) .. (193)
<223> "Xaa" is any amino acid

<400> 180

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Xaa Leu Ala His Gly Val Arg Ala Leu
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Ser Leu Leu Glu Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Ile His Tyr Arg Asn Ala Ser Asp Gly Tyr Tyr Ile Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Glu Asn His Ile Leu His
85 90 95

Leu Pro Gly Cys Ile Pro Cys Val Lys Thr Gly Asn Gln Ser Arg Cys
100 105 110

Trp Val Ala Leu Thr Pro Thr Leu Ala Ala Pro His Leu Arg Ala Pro
115 120 125

Leu Ser Ser Leu Arg Ala His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Ala Cys Ser Ala Phe Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu
145 150 155 160

Ala Gly Gln Leu Phe Thr Ile Arg Pro Arg Ile His Glu Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Ser Gly His Ile Thr Gly Xaa Xaa Xaa
180 185 190

Xaa

<210> 181

<211> 579

<212> DNA
 <213> hepatitis C virus

 <220>
 <221> misc_feature
 <222> (152)..(152)
 <223> "n" is any nucleotide

 <400> 181
 gcgtgcggct tcgcccatac catggatac atcccgctcg taggcgc(cc cgtgggtggc 60
 gtcgccagag ccctggcgca cggtgttagg gctgtggagg acgggattaa ctacgcaaca 120
 gggaaatcttc ctgggttgctc tttctctatc tnccttctgg cacttctctc gtgcctgact 180
 gtccccggcct cggctcagca ctaccggaat gtctcgggca tctaccacgt caccaatgat 240
 tgcccgaatt ccagcatagt gtatgaagcc gatcaccaca tcatgcactt accagggtgc 300
 ataccctgcg tgaggaccgg gaacgttcg cgctgctggg tatctctgac acctactgtg 360
 gctgctccct acctcggggc tccgcttacg tcgctacggc ggcatgtgga tttgatggtg 420
 ggtgcagcca cccttgctc tgccctctac gtcggagacc tctgtggagg tgtcttccta 480
 gtgggacaga tgttcacctt ccagccgcgc cgccactgga ccactcagga ctgcaactgc 540
 tccatttacg tcggccacat cacaggccac agaatggct 579

 <210> 182
 <211> 193
 <212> PRT
 <213> hepatitis C virus

 <220>
 <221> MISC_FEATURE
 <222> (51)..(51)
 <223> "Xaa" is any amino acid

 <400> 182

 Ala Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
 1 5 10 15

 Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
 20 25 30

 Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
 35 40 45

 Ser Ile Xaa Leu Leu Ala Leu Ser Cys Leu Thr Val Pro Ala Ser

50

55

60

Ala Gln His Tyr Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Met His
85 90 95

Leu Pro Gly Cys Ile Pro Cys Val Arg Thr Gly Asn Val Ser Arg Cys
100 105 110

Trp Val Ser Leu Thr Pro Thr Val Ala Ala Pro Tyr Leu Gly Ala Pro
115 120 125

Leu Thr Ser Leu Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Leu Cys Gly Gly Val Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Val Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 183
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 183
acctgcggct ttgccgacct catggataac atcccgctcg taggcgc(ccc) tgtgggtggc 60
gtcgccaggg ccctagaaca cggtgttagg gctgtggagg acggattaa ttatgcaaca 120
ggaaatctcc ccggttgctc ttttctatac tccctttgg cacttcttc gtgcctgact 180
gttcccacct cagccgtcaa ctatcgcaac gcctcgggcg tctatcatat caccaatgac 240
tgcccgaatt cgagcatagt gtacgaggct gactaccaca tcctacacct ccctgggtgc 300
ttaccctgct tgagggttgg gaatcagtca cgctgctggg tggcccttac tccccaccgtg 360

gcggcgccctt acgttgtgc tccgctagaa tccctccgga gtcatgtgga tctgatggta 420
ggtgtgctgcta ctgtgtgctc cgctctttac atcggggacc tgtgcggtgg cgtattttg 480
gttggtcaga tgttttcttt ccagccgcga cgccactgga ccacgcagga ctgcaattgt 540
tctatctacg cggggcacgt tacgggccac aggatggca 579

<210> 184
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 184

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Thr Ser
50 55 60

Ala Val Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp
65 70 75 80

Cys Pro Asn Ala Ser Ile Val Tyr Glu Thr Glu Asn His Ile Leu His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Thr Gly Asn Gln Ser Arg Cys
100 105 110

Trp Val Ala Leu Thr Pro Thr Val Ala Ser Pro Tyr Ala Gly Ala Pro
115 120 125

Leu Glu Pro Leu Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Met Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Leu Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln

165

170

175

Asp Cys Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 185
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 185
acttgcggct ttgccgacct catggatac atcccgctcg taggcgcccc cgtgggtggc 60
gtcgccagag ccctggaaca tggtgttagg gctgtggagg acggcatcaa ttatgcaaca 120
ggaaatctcc ccggttgctc tttctctatc tacctcttgg cacttctctc gtgcctgact 180
gttcccaccc cgccatcca ctatcgcaat gcctcggcg tctaccacgt caccaatgac 240
tgcccgaact cgagcatagt gtacgaggcc gaccaccaca tcctacaccc tccagggtgc 300
ttaccctgtg tgaggggtgg gaatcagtca cgttgtggg tggccctctc tcccaccgtg 360
gcggcgcctt acatcggtgc tccagttgaa tccttccgga gacacgtgga catgatggtg 420
ggcgctgcta ctgtgtgctc cgctctctat attggggact tgtgtggtgg cgtattctg 480
gttggtcaga tgtttcttt ccggccacga cgccactgga ctacgcagga ctgcaattgt 540
tccatctacg cggggcacat cactggccac ggaatggca 579

<210> 186
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 186

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Glu His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Tyr Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Thr Ser
50 55 60

Ala Ile His Tyr Arg Asn Ala Ser Gly Val Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His
85 90 95

Leu Pro Gly Cys Leu Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys
100 105 110

Trp Val Ala Leu Ser Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro
115 120 125

Val Glu Ser Phe Arg Arg His Val Asp Met Met Val Gly Ala Ala Thr
130 135 140

Val Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu
145 150 155 160

Val Gly Gln Met Phe Ser Phe Arg Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Ala Gly His Ile Thr Gly His Gly Met
180 185 190

Ala

<210> 187
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 187
acttgcggct ttgccgacct catggatac atcccgctcg taggcgc(ccc) tgtgggtggc 60
gtcgccaggg ccctggcaca cggtgttagg gctgtggagg acgggatcaa ttatgcgaca 120
ggaaatcttc ccggttgctc tttctctatc ttccctttgg cacttcttc gtgcctgact 180
gttcccaccc cggccgtcaa ctatcgcaat gcctcggca tctatcacat caccaatgac 240
tgccccaccc cgagcatagt gtacgagacc gagcaccaca tcctacaccc cccagggtgt 300
ttaccctgcg tgaggggtgg gaatcagtca cgctgctggg tggccctcac tcccaccgtg 360

gcggcgccctt acatcgccgc tccgcttgaa tccctccgga gtcatgtgga tctgatggta	420
ggtgccgcta ctgcgtgctc cgctcttac atcggagacc tgtgcggtgg cgtattttg	480
gttggtcaga tgttctctt ccagccgcgg cgccactgga ctacgcagga ctgcaattgt	540
tccatctacg cggggcacgt tacgggccac aggatggca	579

<210> 188
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 188

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala			
1	5	10	15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val		
20	25	30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe		
35	40	45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Thr Ser		
50	55	60

Ala Val Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp			
65	70	75	80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Thr Glu His His Ile Leu His		
85	90	95

Leu Pro Gly Cys Leu Pro Cys Val Arg Val Gly Asn Gln Ser Arg Cys		
100	105	110

Trp Val Ala Leu Thr Pro Thr Val Ala Ala Pro Tyr Ile Gly Ala Pro		
115	120	125

Leu Glu Ser Leu Arg Ser His Val Asp Leu Met Val Gly Ala Ala Thr		
130	135	140

Ala Cys Ser Ala Leu Tyr Ile Gly Asp Leu Cys Gly Gly Val Phe Leu			
145	150	155	160

Val Gly Gln Met Phe Ser Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Ala Gly His Val Thr Gly His Arg Met
180 185 190

Ala

<210> 189
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 189
acgtgcggct tcgcccacct catggatac atcccgctcg tggcgcccc cgttggggc 60
gtcgccagg ccctggcgca tggcgtcagg gctgtggagg acgggattaa ctatgcgaca
ggaaatcttc ccggttgctc ttctctatc ttccctctgg cacttcttc gtgcctca 120
gtcccagcgt cagctgagca ctaccggaat gcttcggca tctatcacat caccaatgac
tgtccgaatt ccagcgtagt ctatgaaact gaccaccata tattgcactt gccgggtgc 180
gtaccctgcg tgagggccgg gaacgtgtct cggtgttggc cgccggtaac acctacggtg
gctgccgtat ccatggacgc tccgctcgag tcctccggc ggcattgttggc cctaattggta
ggtgccggcca ccgtgtgttc tgtcctctat gttggagacc tctgtggagg tgcttccta 240
gtggggcaga tgttcacctt ccagccgcgt cgccacttggc ccacgcaggaa ttgttaattgc
tccatctata ctggccatat caccggccac aggatggcg 540
579

<210> 190
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 190

Thr Cys Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val
20 25 30

Glu Asp Gly Ile Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Glu His Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Val Val Tyr Glu Thr Asp His His Ile Leu His
85 90 95

Leu Pro Gly Cys Val Pro Cys Val Arg Ala Gly Asn Val Ser Arg Cys
100 105 110

Trp Thr Pro Val Thr Pro Thr Val Ala Ala Val Ser Met Asp Ala Pro
115 120 125

Leu Glu Ser Phe Arg Arg His Val Asp Leu Met Val Gly Ala Ala Thr
130 135 140

Val Cys Ser Val Leu Tyr Val Gly Asp Leu Cys Gly Gly Ala Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Phe Gln Pro Arg Arg His Trp Thr Thr Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Thr Gly His Ile Thr Gly His Arg Met
180 185 190

Ala

<210> 191
<211> 289
<212> DNA
<213> hepatitis C virus

<400> 191
atgagcacga atcctaaacc tcaaagaaaa accaaacgta acaccaaccc cgcggccatg 60
gacgttaagt tccccggcg ggccagatc gttgggtggag tttacttggt gccggcgagg 120
ggcccccaggt tgggtgtcg cgcgactagg aagacttcgg agcggtcgca acctcggtgg 180
agacgtcagc ctatccccaa ggcacgtcga tctgagggaa ggtcctgggc tcagcccgaa 240
tacccatggc ctctttacgg taatgagggt tgtgggtggg caggatggg 289

<210> 192
<211> 96
<212> PRT
<213> hepatitis C virus

<400> 192

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Pro Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

<210> 193
<211> 498
<212> DNA
<213> hepatitis C virus

<400> 193

atgagcacga atcctaaacc tcaaagaaaa accaaacgta acaccaacccg ccgcctatg 60
gacgtaaagt tcccggcg 70 gttggcgag tttacttgg 75 gccgcgcagg 120
ggcccccggt tgggtgtcg 80 aagacttcgg agcggtcgca acctcgtggc 180
aggcgtcaac ctatccccaa ggccgcgcgg tccgagggca ggtcctggc 90 gcaagccggg 240
tacccctggc ccctctatgg caatgagggc tgtgggtggg cagggtggct cctgtctcct 300
cgccgctctc ggccatctt 95 gggccaaat gatccccggc ggagatcg 100 cg 360
aaggcatcg ataccctgac gtgcggcttc gccgacctca tggatacat cccgctcg 110 tg 420
ggcgcccccg tcggggcg 115 ctggcgatg gcgtcagg 120 gc 480
gggattaaact atcgacag 125 498

<210> 194
<211> 166
<212> PRT
<213> hepatitis C virus

<400> 194

Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
1 5 10 15

Arg Arg Pro Met Asp Val Lys Phe Pro Gly Gly Gln Ile Val Gly
20 25 30

Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
35 40 45

Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
50 55 60

Ile Pro Lys Ala Arg Arg Ser Glu Gly Arg Ser Trp Ala Gln Ala Gly
65 70 75 80

Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp
85 90 95

Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Asn Asp Pro
100 105 110

Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
115 120 125

Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Val
130 135 140

Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Ala Val Glu Asp
145 150 155 160

Gly Ile Asn Tyr Arg Gln
165

<210> 195
<211> 579
<212> DNA
<213> hepatitis C virus

<400> 195

acgtgcggat tcgcccacct cgtggggta	c atccccctcg taggcggccc cg	ttgggggc	60
gtcgcaagg	g ctctcgaca tggtgtgagg gttcttgagg acggggta	aa ttatgcaaca	120
ggaatctgc	ctggttgctc ttctctatc ttcatcttg cacttcttc	gtgcctact	180
gtcccgcc	ctgcagttcc ctaccgaaat gcctctgg	a tctatcatgt caccaatgat	240
tgcccaaact	cttccatagt ctatgaggca gatgatctga	tcctacacgc acctggctgc	300
gtgccttgt	tcagggaaaga taatgtgagt aggtgctgg	tccaaattac cccacgctg	360
tcagccccga	gcttcggagc agtcacggct ccccttcg	gagccgttga ttacttgg	420
ggaggggctg	ccctctgctc cgcgtaatac gttggagacg	cgtgtggggc actat	480
gtaggccaaa	tgttcaccta taggcctcgc cagcatgcta	cggtgcagga ctgcaactgt	540
tccatctaca	gtggccacgt caccggccat cagatggca		579

<210> 196
<211> 193
<212> PRT
<213> hepatitis C virus

<400> 196

Thr Cys Gly Phe Ala Asp Leu Val Gly Tyr Ile Pro Leu Val Gly Gly
1 5 10 15

Pro Val Gly Gly Val Ala Arg Ala Leu Ala His Gly Val Arg Val Leu
20 25 30

Glu Asp Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe
35 40 45

Ser Ile Phe Ile Leu Ala Leu Leu Ser Cys Leu Thr Val Pro Ala Ser
50 55 60

Ala Val Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Val Thr Asn Asp
65 70 75 80

Cys Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Leu Ile Leu His
85 90 95

Ala Pro Gly Cys Val Pro Cys Val Arg Lys Asp Asn Val Ser Arg Cys
100 105 110

Trp Val Gln Ile Thr Pro Thr Leu Ser Ala Pro Ser Phe Gly Ala Val

115

120

125

Thr Ala Pro Leu Arg Arg Ala Val Asp Tyr Leu Val Gly Gly Ala Ala
130 135 140

Leu Cys Ser Ala Leu Tyr Val Gly Asp Ala Cys Gly Ala Leu Phe Leu
145 150 155 160

Val Gly Gln Met Phe Thr Tyr Arg Pro Arg Gln His Ala Thr Val Gln
165 170 175

Asp Cys Asn Cys Ser Ile Tyr Ser Gly His Val Thr Gly His Gln Met
180 185 190

Ala

<210> 197
<211> 1485
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (787)..(787)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (1011)..(1011)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (1444)..(1444)
<223> "n" is any nucleotide

<400> 197
tgtgccagga ccatcaccac cgagcttct atcacatact ccacttacgg caagttcctt 60
gctgatggag ggtgttcagg cggcgccat gacgtgatca tatgcgacga gtgcattcc 120
caggacgcca ccaccattct tggataggc actgtccttg accaggcaga gacggctgga 180
gctaggctcg tcgtcttggc cacggccacc cctccggca gtgtgacaac gccccacccc 240
aacatcgagg aagtggccct gcctcaggag ggggaggttc ctttctacgg cagagccatt 300

cccttgctt ttataaaggg tggtaggcat ctcatttct gccattccaa gaaaaaatgt	360
gatgaactcg ccaagcaact gaccagcctg ggcgtgaacg ccgtggcata ttatagaggt	420
ctagacgtcg ccgtcatacc cacaacagga gacgtggtcg tgtgcagcac cgacgcgctc	480
atgacggat tcaccggcga ctgttattct gtcataact gcaactccgc cgtcactcag	540
acggtggact tcagtcggta tcccactttt accattgaga ctaccacagt gccccaggac	600
gcagtgtcca gaagccagcg ttggggccgc acggggagag gtaggcacgg catataccgg	660
tatgtctcggtt ctggagagag accgtctggc atgttcact ccgtggtgc ctgtgagtgc	720
tacgatgccc gatgtgcattt gtacgatctg actcctgccc agactaccgt gaggttgcgc	780
gcttacntaa acaccccccgg gctccctgtc tgtcaggacc atttggaaatt ctgggggggg	840
gtgttcacgg ggctcaactaa catcgacgct cacatgctgt cacagaccaa acagggtggg	900
gagaatttcc cataccttgt agcgtaccaa gcaacagtct gtgttcgcgc gaaagcgccc	960
ccccccagct gggacacaat gtggaaatgc atgctccgtc tcaaaccgac nttaactggc	1020
cctactcccc tcttgtacag gctggggccc gtccagaatg agatcacact gacgcacccc	1080
atcaccaagt acattatggc ttgcattgtct gcggacttgg aggtcattac cagcacttgg	1140
gttctggtgg ggggcgttgtt ggcggccctg gcggcctact gtttgcgggtt gggttcggta	1200
gccatagtcg gtaggatcat cctctctggg aaacctgcca tcattcccgta tagggaggtta	1260
ttataccagc aatttgcattt gatggaggag tgctcggcct cgttgccta tatggacgaa	1320
acacgtgcca ttgcccggaca attcaaagag aaagtgcgt gcttcattcag cacgaccggc	1380
cagaaggctg aaactctgaa gccggcagcc acgtctgtgt ggaacaaggc tgagcagttc	1440
tggncacat acatgtggaa ctcatcagt gggatacaat aatag	1485

<210> 198
<211> 484
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (263)..(263)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (337)..(337)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (482)..(482)
<223> "Xaa" is any amino acid

<400> 198

Cys Ala Arg Thr Ile Thr Thr Gly Ala Ser Ile Thr Tyr Ser Thr Tyr
1 5 10 15

Gly Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala His Asp Val
20 25 30

Ile Ile Cys Asp Glu Cys His Ser Gln Asp Ala Thr Thr Ile Leu Gly
35 40 45

Ile Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val
50 55 60

Val Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Thr Pro His Pro
65 70 75 80

Asn Ile Glu Glu Val Ala Leu Pro Gln Glu Gly Glu Val Pro Phe Tyr
85 90 95

Gly Arg Ala Ile Pro Leu Ala Phe Ile Lys Gly Gly Arg His Leu Ile
100 105 110

Phe Cys His Ser Lys Lys Cys Asp Glu Leu Ala Lys Gln Leu Thr
115 120 125

Ser Leu Gly Val Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ala
130 135 140

Val Ile Pro Thr Thr Gly Asp Val Val Val Cys Ser Thr Asp Ala Leu
145 150 155 160

Met Thr Gly Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Ser
165 170 175

Ala Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile
180 185 190

Glu Thr Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Trp
195 200 205

Gly Arg Thr Gly Arg Gly Arg His Gly Ile Tyr Arg Tyr Val Ser Ala
210 215 220

Gly Glu Arg Pro Ser Gly Met Phe Asp Ser Val Val Leu Cys Glu Cys
225 230 235 240

Tyr Asp Ala Gly Cys Ala Trp Tyr Asp Leu Thr Pro Ala Glu Thr Thr
245 250 255

Val Arg Leu Arg Ala Tyr Xaa Asn Thr Pro Gly Leu Pro Val Cys Gln
260 265 270

Asp His Leu Glu Phe Trp Glu Gly Val Phe Thr Gly Leu Thr Asn Ile
275 280 285

Asp Ala His Met Leu Ser Gln Thr Lys Gln Gly Glu Asn Phe Pro
290 295 300

Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Val Arg Ala Lys Ala Pro
305 310 315 320

Pro Pro Ser Trp Asp Thr Met Trp Lys Cys Met Leu Arg Leu Lys Pro
325 330 335

Xaa Leu Thr Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Pro Val Gln
340 345 350

Asn Glu Ile Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys
355 360 365

Met Ser Ala Asp Leu Glu Val Ile Thr Ser Thr Trp Val Leu Val Gly
370 375 380

Gly Val Val Ala Ala Leu Ala Ala Tyr Cys Leu Thr Val Gly Ser Val
385 390 395 400

Ala Ile Val Gly Arg Ile Ile Leu Ser Gly Lys Pro Ala Ile Ile Pro
405 410 415

Asp Arg Glu Val Leu Tyr Gln Gln Phe Asp Glu Met Glu Glu Cys Ser

420 425 430

Ala Ser Leu Pro Tyr Met Asp Glu Thr Arg Ala Ile Ala Gly Gln Phe
435 440 445

Lys Glu Lys Val Leu Gly Phe Ile Ser Thr Thr Gly Gln Lys Ala Glu
450 455 460

Thr Leu Lys Pro Ala Ala Thr Ser Val Trp Asn Lys Ala Glu Gln Phe
465 470 475 480

Trp Xaa Thr Tyr

<210> 199
<211> 1485
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (684)..(684)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (909)..(909)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (1058)..(1058)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (1133)..(1133)
<223> "n" is any nucleotide

<400> 199
tgtgccagga ccatcaccac cggagttct atcacatact ccacttacgg caagttcatt 60
gctgtatggag ggtgttcagg cggcgctat gacgtatca tatgcgacga gtgcattcc 120
caggacgcca ccaccattct tggataggc actgtccttg accaggcaga gacggctgga 180
gctaggctcg tcgtcttggc cacggccacc cctccggca gtgtgacaac gccccacccc 240

aacatcgagg aagtggccct gcctcaggag ggggaggttc ctttctacgg cagagccatt	300
cccccttgctt ttataaaaggg tgtaggcat ctcatttctt gccattccaa gaaaaaatgt	360
gatgaactcg ccaagcaact gaccagcctg ggcgtgaacg ccgtggcata ttatagaggt	420
ctagacgtcg ccgtcatccc cacagcagga gacgtggtcg tgtgcagcac cgacgcgctc	480
atgacgggat tcaccggcga ctttattctt gtcatagact gcaactccgc cgtcaactcag	540
acggtgact tcagtctgga tcccactttt accattgaga ctaccacagt gccccaggac	600
gcagtgtcca gaagccagcg taggggccgc acggggagag gtggcacgg catataccgg	660
tatgtctcggtt ctggagagag accntctgac atgttcact ccgtgggtgt ctgtgagtgc	720
tacgatgccc gatgtgcgtg gatgtactcg actcctgccc agactaccgt gaggttgcgc	780
gcttacataa acaccccccgg gctccctgtc tgtcaggacc atttggaaatt ctgggagggg	840
gtgttacgg ggctcaactaa catcgacgct cacatgctgt cacagaccaa acagggtgtgg	900
gagaatttnc cataccttgt agcgtaccaa gcaacagtct gtgttgcgc gaaagcgc	960
ccccccagct gggacacaat gtggaaatgc atgctccgtc tcaaaccgac tttaactggc	1020
cctactcccc tcttgtacag gctggggccc gtccagantg agatcacact gacgcacccc	1080
atcaccaagt acattatggc ttgcattgtct gcggacttgg aggtcattac cancacttgg	1140
gttctggtgg ggggcgttgt ggcggccctg gcccactact gcttgacgggt gggttcggta	1200
gccatagtcg gtaggatcat cctctctggg aaacctgcca tcattccga tagggaggca	1260
ttataccagc aatttgcgtatga gatggaggag tgctccgcctt cgttgccta tatggacgag	1320
acacgtgcca ttgccggaca attcaaagag aaagtgcgtg gcttcattcag cacgaccggc	1380
cagaaggctg aaactctgaa gccggcagcc acgtctgtgt ggaacaaggc tgagcagttc	1440
tggccacat acatgtggaa ctcatcagc gggataacaat aatag	1485

<210> 200
<211> 484
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (228)..(228)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (303)..(303)

<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (353)..(353)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (378)..(378)
<223> "Xaa" is any amino acid

<400> 200

Cys Ala Arg Thr Ile Thr Thr Gly Ala Ser Ile Thr Tyr Ser Thr Tyr
1 5 10 15

Gly Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Val
20 25 30

Ile Ile Cys Asp Glu Cys His Ser Gln Asp Ala Thr Thr Ile Leu Gly
35 40 45

Ile Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val
50 55 60

Val Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Thr Pro His Pro
65 70 75 80

Asn Ile Glu Glu Val Ala Leu Pro Gln Glu Gly Glu Val Pro Phe Tyr
85 90 95

Gly Arg Ala Ile Pro Leu Ala Phe Ile Lys Gly Gly Arg His Leu Ile
100 105 110

Phe Cys His Ser Lys Lys Cys Asp Glu Leu Ala Lys Gln Leu Thr
115 120 125

Ser Leu Gly Val Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ala
130 135 140

Val Ile Pro Thr Ala Gly Asp Val Val Val Cys Ser Thr Asp Ala Leu
145 150 155 160

Met Thr Gly Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Ser
165 170 175

Ala Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile
180 185 190

Glu Thr Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg
195 200 205

Gly Arg Thr Gly Arg Gly Arg His Gly Ile Tyr Arg Tyr Val Ser Ala
210 215 220

Gly Glu Arg Xaa Ser Asp Met Phe Asp Ser Val Val Leu Cys Glu Cys
225 230 235 240

Tyr Asp Ala Gly Cys Ala Trp Tyr Asp Leu Thr Pro Ala Glu Thr Thr
245 250 255

Val Arg Leu Arg Ala Tyr Ile Asn Thr Pro Gly Leu Pro Val Cys Gln
260 265 270

Asp His Leu Glu Phe Trp Glu Gly Val Phe Thr Gly Leu Thr Asn Ile
275 280 285

Asp Ala His Met Leu Ser Gln Thr Lys Gln Gly Glu Asn Xaa Pro
290 295 300

Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Val Arg Ala Lys Ala Pro
305 310 315 320

Pro Pro Ser Trp Asp Thr Met Trp Lys Cys Met Leu Arg Leu Lys Pro
325 330 335

Thr Leu Thr Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Pro Val Gln
340 345 350

Xaa Glu Ile Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys
355 360 365

Met Ser Ala Asp Leu Glu Val Ile Thr Xaa Thr Trp Val Leu Val Gly
370 375 380

Gly Val Val Ala Ala Leu Ala Ala Tyr Cys Leu Thr Val Gly Ser Val

385 390 395 400

Ala Ile Val Gly Arg Ile Ile Leu Ser Gly Lys Pro Ala Ile Ile Pro
405 410 415

Asp Arg Glu Ala Leu Tyr Gln Gln Phe Asp Glu Met Glu Glu Cys Ser
420 425 430

Ala Ser Leu Pro Tyr Met Asp Glu Thr Arg Ala Ile Ala Gly Gln Phe
435 440 445

Lys Glu Lys Val Leu Gly Phe Ile Ser Thr Thr Gly Gln Lys Ala Glu
450 455 460

Thr Leu Lys Pro Ala Ala Thr Ser Val Trp Asn Lys Ala Glu Gln Phe
465 470 475 480

Trp Ala Thr Tyr

<210> 201

<211> 340

<212> DNA

<213> hepatitis C virus

<400> 201

ctccactgtg actgagagag acatcagggt cgaagaagaa gtctatcagt gttgtgatct 60

ggagccccgag gcccgcagg taataaccgc cctcacggag agactctacg tggggggccc 120

tatgtacaat agcaaggggag acctttgcgg gtatcgagg tgccgcgcaa gcggcgtata 180

taccaccaggc ttccggaaaca cactgacgtg ctacctaaa gcctcagcag ccatcagggc 240

tgccgggctg aaggactgca ccatgctggt ttgcggtgac gacttagtcg tgatcgctga 300

aagcggtggc gtcgaggagg acaagcgagc cctcggagct 340

<210> 202

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 202

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Tyr Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Ile Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Gly Gly Val Glu Glu Asp Lys Arg Ala Leu Gly
100 105 110

Ala

<210> 203
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 203
ctccacagtg actgaaaagag acatcagggt cgaggaagag gtctaccagt gttgtgacct 60
ggagcctgaa acccgcaagg taatatctgc cctcactgaa agactctatg tggcggtcc 120
catgcacaac agcaggggag acctatgcgg gtaccgtaga tgccgcgcga gcggcgtata 180
caccacaagc ttccggaaaca ctctgacgtg cttcctcaag gccacagcgg ccaccaaagc 240
cgctggcta aaggactgca ccatgttggt gtgtggtgac gacttagtcg ttatcgccga 300
aagcgatggt gtcgaagagg accgcccagc cctcggagct 340

<210> 204
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 204

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Thr Arg Lys Val Ile Ser Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Arg Gly Asp Leu
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Phe Leu Lys Ala Thr Ala Ala Thr Lys Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Asp Gly Val Glu Glu Asp Arg Arg Ala Leu Gly
100 105 110

Ala

<210> 205

<211> 340

<212> DNA

<213> hepatitis C virus

<400> 205

ctccacggtg accgaaagg atatcaggac cgaggaagag atctaccagt gctgcgacct 60

ggagcccccaa gcccccaagg tgatatccgc cctaacggaa agactctacg tggcggtcc 120

catgtacaac tccaaggggg acctatgcgg gcaacggagg tgccgcgcaa gcggggtcta 180

caccaccagc ttcccggaaaca ctgtaacgtg ttatctcaag gccgttgcgg ctactaggc 240

cgcaggtctg aaaggttgca gcatgctggg ttgtggagac gacttagtcg tcatctgcga 300

gagcggcgcc gtagaggagg atgcaagagc cctccgagcc 340

<210> 206

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 206

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Glu Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ser Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Tyr Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Gln Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Val Thr Cys Tyr Leu Lys Ala Val Ala Ala Thr Arg Ala
65 70 75 80

Ala Gly Leu Lys Gly Cys Ser Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Gly Val Glu Glu Asp Ala Arg Ala Leu Arg
100 105 110

Ala

<210> 207
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 207
ctccacggtg actgaaaggg acattaggt cgaggaagag atctaccagt gctgtgacct 60
ggagcccgag gcacgcagg tgatatccgc tctcacagaa agactctaca agggcggccc 120
catgtataac agcaaggggg acctatgcgg gcttcggagg tgccgcgcaa gcggggtata 180
caccacaagc ttccggaaaca cggtgacatg ctacctaaa gccacagcag ccaccaggc 240
tgcagggctg aaagattgca ctatgctggt atgcggtgac gacttagtgc ttattgccga 300
aagcggtggc gtggaggagg acgcccggc cctccgagcc 340

<210> 208
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 208

Ser Thr Val Thr Glu Arg Asp Ile Arg Val Glu Glu Glu Ile Tyr Gln

1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Ser Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Lys Gly Gly Pro Met Tyr Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Leu Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Val Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Gly Val Glu Glu Asp Ala Arg Ala Leu Arg
100 105 110

Ala

<210> 209
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (13)..(13)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (23)..(23)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (65)..(65)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (72)..(72)

<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (277)..(277)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (337)..(337)
<223> "n" is any nucleotide

<400> 209
ccccaccgtg acngagaggg acntcagggt cgaggaagag gtctatcagt gctgtaatct 60
ggagnccgat gnccgcaagg tcatcaacgc cctcacagag agactctacg tggcgccc 120
tatgcacaac agcaagggag acctgtgtgg catccgtaga tgccgcgcga gcggcgttta 180
caccacgagc ttccggaaaca cgctgacttg ctaccta aaa gccacagcgg ccaccaggc 240
cgccggcttg aaggattgca ccatgctggt ctgcggngac gacctggttg tcattgctga 300
gagcattggc atagacgagg acaagcaagc cctccgnact , 340

<210> 210
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (22)..(22)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> "Xaa" is any amino acid

<400> 210

Pro Thr Val Thr Glu Arg Asp Xaa Arg Val Glu Glu Glu Val Tyr Gln
1 5 10 15

Cys Cys Asn Leu Glu Xaa Asp Xaa Arg Lys Val Ile Asn Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met His Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Ile Arg Arg Cys Arg Ala Ser Gly Val Tyr Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala
65 70 75 80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ala Glu Ser Ile Gly Ile Asp Glu Asp Lys Gln Ala Leu Arg
100 105 110

Thr

<210> 211
<211> 340
<212> DNA
<213> hepatitis C virus

<220>
<221> misc_feature
<222> (11)..(11)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (327)..(327)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (333)..(334)
<223> "n" is any nucleotide

<220>
<221> misc_feature
<222> (340)..(340)
<223> "n" is any nucleotide

<400> 211
ctcgactgtg nccgagaggg acatcaggac agagggagag gtctatcagt gttgcgacct 60
ggaaccggaa gcccgcaagg taatcacccgc cctcacttag agactctatg tggccggacc 120
catgttcaac agcaagggag acctgtgcgg acaacgccgg tgccgcgcaa gcggcgtgtt 180
caccaccagg ttcgggaaca cactgacgtg ctacctaaa gccacagctg ctactagage 240
agccggctta aaagattgca ccatgctggt ctgcggtgac gacttagtcg ttatttccga 300
gagcgccggt gtggaggagg atcccanaac ccnnncgacn 340

<210> 212
<211> 113
<212> PRT
<213> hepatitis C virus

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (109)..(109)
<223> "Xaa" is any amino acid

<220>
<221> MISC_FEATURE
<222> (111)..(111)
<223> "Xaa" is any amino acid

<400> 212

Ser Thr Val Xaa Glu Arg Asp Ile Arg Thr Glu Gly Glu Val Tyr Gln
1 5 10 15

Cys Cys Asp Leu Glu Pro Glu Ala Arg Lys Val Ile Thr Ala Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Phe Asn Ser Lys Gly Asp Leu
35 40 45

Cys Gly Gln Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Phe
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Thr Ala Ala Thr Arg Ala

65

70

75

80

Ala Gly Leu Lys Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Ala Gly Val Glu Glu Asp Pro Xaa Thr Xaa Arg
100 105 110

Pro

<210> 213

<211> 340

<212> DNA

<213> hepatitis C virus

<400> 213

ctcaacagtc accgagaacg acatccgtgt tgaggagtca atttaccaat gtttgactt 60

ggcccccgag gccagacagg ccataaagtc gtcacagag cggcttata tcgggggtcc 120

cctgactaat tcaaagggc agaactgtgg ctatgccga tgccgcgcaa gcggcgtgct 180

gacgaccagc tgcggtaata cccttacatg ttacctaaag gcctctgcag cctgtcgagc 240

tgcgaagctc caggactgca cgatgctcgt gtgcggggac gaccttgtcg ttatctgtga 300

aagcgcggga acccaagagg acgcggcgag cctacgagtc 340

<210> 214

<211> 113

<212> PRT

<213> hepatitis C virus

<400> 214

Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser Ile Tyr Gln
1 5 10 15

Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Lys Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys Gly Gln Asn
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys
50 55 60

Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ser Ala Ala Cys Arg Ala
65 70 75 80

Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Ala Ala Ser Leu Arg
100 105 110

Val

<210> 215
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 215
ctcaaccgtc acggagaggg atataagaac agaagaatcc atatatcaag cttgttccct 60
gccccaagag gccagaactg tcatacactc gctcaccgag agactctacg tgggagggcc 120
catgataaac agcaaaggc aatcctgcgg ttacaggcgt tgccgcgcaa gcggtgtttt 180
caccaccagc atgggaaata ccatgacgtg ttacatcaaa gcccttgcag cgtgtaaagc 240
cgcaaggatc gtggaccccg tcatgctggcgt gtgtggagac gacctggtcg tcatctcgga 300
gagccagggtaacgaggagg acgagcggaaa cctgagagct 340

<210> 216
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 216

Ser Thr Val Thr Glu Arg Asp Ile Arg Thr Glu Glu Ser Ile Tyr Gln
1 5 10 15

Ala Cys Ser Leu Pro Gln Glu Ala Arg Thr Val Ile His Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Val Gly Gly Pro Met Ile Asn Ser Lys Gly Gln Ser
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Phe Thr Thr Ser Met
50 55 60

Gly Asn Thr Met Thr Cys Tyr Ile Lys Ala Leu Ala Ala Cys Lys Ala
65 70 75 80

Ala Gly Ile Val Asp Pro Val Met Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Ile Ser Glu Ser Gln Gly Asn Glu Glu Asp Glu Arg Asn Leu Arg
100 105 110

Ala

<210> 217
<211> 340
<212> DNA
<213> hepatitis C virus

<400> 217
ctcgactgtc actgaacagg acatcagggt ggaagaggag atatatcaat gctgcaacct 60
tgaaccggag gccagggaaag tgcgttcctc cctcacggag cggctttact gcggaggccc 120
tatgttaac agcaaggggg cccagtgtgg ttatcgccgt tgccgtgcca gtggagttct 180
gcctaccaggc tttggcaaca caatcaacttg ttacatcaag gccacaacgg ccgcgaaggc 240
cgcaggcctc cggaaccggg actttcttgt ctgcggagat gatctggtcg tgggtggctga 300
gagtgatggc gtcgacgagg atagagcagc cctgagagcc 340

<210> 218
<211> 113
<212> PRT
<213> hepatitis C virus

<400> 218

Ser Thr Val Thr Glu Gln Asp Ile Arg Val Glu Glu Glu Ile Tyr Gln
1 5 10 15

Cys Cys Asn Leu Glu Pro Glu Ala Arg Lys Val Ile Ser Ser Leu Thr
20 25 30

Glu Arg Leu Tyr Cys Gly Gly Pro Met Phe Asn Ser Lys Gly Ala Gln
35 40 45

Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Pro Thr Ser Phe
50 55 60

Gly Asn Thr Ile Thr Cys Tyr Ile Lys Ala Thr Thr Ala Ala Lys Ala
65 70 75 80

Ala Gly Leu Arg Asn Pro Asp Phe Leu Val Cys Gly Asp Asp Leu Val
85 90 95

Val Val Ala Glu Ser Asp Gly Val Asp Glu Asp Arg Ala Ala Leu Arg
100 105 110

Ala

<210> 219
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 219

Arg Ser Glu Gly Arg Thr Ser Trp Ala Gln
1 5 10

<210> 220
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 220

Arg Ser Glu Gly Arg Thr Ser Trp Ala Gln
1 5 10

<210> 221
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 221

Arg Thr Glu Gly Arg Thr Ser Trp Ala Gln
1 5 10

<210> 222
<211> 629
<212> DNA
<213> hepatitis C virus

<400> 222

tagacttttg ggagagcgtc ttcactggac taactcacat agatgcccac tttctgtcac	60
agactaagca gcagggactc aacttctcggt tcctgactgc ctaccaagcc actgtgtgcg	120
ctcgccgcga ggctccccc ccaagttggg acgagatgtg gaagtgtctc gtacggctta	180
agccaacact acatggacct acgcctttc tatatcggtt gggcctgtc caaaatgaaa	240
tctgcttgac acaccccatc acaaaataca tcatggcatg catgtcagct gatctgaaag	300
taaccaccag cacctgggtt ttgcttggag gggtcctcgc gcccttagcg gcctactgct	360
tgtcagtcgg ttgtgttgt attgtgggtc atatcgagct gggggcaag ccggcaatcg	420
ttccagacaa agaggtgttg tatcaacaat acgatgagat ggaagagtgc tcacaagctg	480
ccccatatat cgaacaagct caggtaatag ctcaccagtt caaggaaaaa gtccttggat	540
tgctgcagcg agccacccaa caacaagctg tcattgagcc catactaact accaactggc	600
aaaagcttga ggcctttgg cacaagcat	629

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<211> 209
<212> PRT
<213> hepatitis C virus

<400> 223

Asp Phe Trp Glu Ser Val, Phe Thr Gly Leu Thr His Ile Asp Ala His			
1	5	10	15

Phe Leu Ser Gln Thr Lys Gln Gln Gly Leu Asn Phe Ser Phe Leu Thr		
20	25	30

Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser		
35	40	45

Trp Asp Glu Met Trp Lys Cys Leu Val Arg Leu Lys Pro Thr Leu His		
50	55	60

Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Pro Val Gln Asn Glu Ile			
65	70	75	80

Cys Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met Ser Ala		
85	90	95

Asp Leu Glu Val Thr Thr Ser Thr Trp Val Leu Leu Gly Gly Val Leu		
100	105	110

Ala Ala Leu Ala Ala Tyr Cys Leu Ser Val Gly Cys Val Val Ile Val
115 120 125

Gly His Ile Glu Leu Gly Gly Lys Pro Ala Ile Val Pro Asp Lys Glu
130 135 140

Val Leu Tyr Gln Gln Tyr Asp Glu Met Glu Glu Cys Ser Gln Ala Ala
145 150 155 160

Pro Tyr Ile Glu Gln Ala Gln Val Ile Ala His Gln Phe Lys Glu Lys
165 170 175

Val Leu Gly Leu Leu Gln Arg Ala Thr Gln Gln Gln Ala Val Ile Glu
180 185 190

Pro Ile Val Thr Thr Asn Trp Gln Lys Leu Glu Ala Phe Trp His Lys
195 200 205

His

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<400> 224

Ile His Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile
1 5 10

<210> 225
<211> 12
<212> PRT
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<400> 225

Val Asn Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile
1 5 10

<210> 226
<211> 12
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<400> 226

Val Asn Tyr Arg Asn Ala Ser Gly Val Tyr His Ile
1 5 10

<210> 227
<211> 12
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<400> 227

Val Asn Tyr His Asn Thr Ser Gly Ile Tyr His Leu
1 5 10

<210> 228
<211> 12
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<400> 228

Gln His Tyr Arg Asn Ala Ser Gly Ile Tyr His Val
1 5 10

<210> 229
<211> 12
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<400> 229

Gln His Tyr Arg Asn Val Ser Gly Ile Tyr His Val
1 5 10

<210> 230
<211> 12
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<400> 230

Ile His Tyr Arg Asn Ala Ser Asp Gly Tyr Tyr Ile
1 5 10

<210> 231
<211> 12
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<400> 231

Leu Gln Val Lys Asn Thr Ser Ser Tyr Met Val

1 5 10

<210> 232
<211> 11
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<400> 232

Val Trp Gln Leu Arg Ala Ile Val Leu His Val
1 5 10

<210> 233
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<400> 233

Val Tyr Glu Ala Asp Tyr His Ile Leu His Leu
1 5 10

<210> 234
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<400> 234

Val Tyr Glu Thr Asp Asn His Ile Leu His Leu
1 5 10

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<400> 235

Val Tyr Glu Thr Glu Asn His Ile Leu His Leu
1 5 10

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<400> 236

Val Phe Glu Thr Val His His Ile Leu His Leu
1 5 10

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<211> 11
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<213> hepatitis C virus

<400> 237

Val Phe Glu Thr Glu His His Ile Leu His Leu
1 5 10

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<400> 238

Val Phe Glu Thr Asp His His Ile Met His Leu
1 5 10

<210> 239
<211> 11
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<400> 239

Val Tyr Glu Thr Glu Asn His Ile Leu His Leu
1 5 10

<210> 240
<211> 11
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<400> 240

Val Tyr Glu Ala Asp Ala Leu Ile Leu His Ala
1 5 10

<210> 241
<211> 13
<212> PRT
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<400> 241

Val Gln Asp Gly Asn Thr Ser Ala Cys Trp Thr Pro Val
1 5 10

<210> 242

<211> 13
<212> PRT
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<400> 242

Val Lys Thr Gly Asn Gln Ser Arg Cys Trp Val Ala Leu
1 5 10

<210> 243
<211> 13
<212> PRT
<213> hepatitis C virus

<400> 243

Val Lys Thr Gly Asn Gln Ser Arg Cys Trp Val Ala Leu
1 5 10

<210> 244
<211> 13
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<400> 244

Val Arg Thr Gly Asn Gln Ser Arg Cys Trp Val Ala Leu
1 5 10

<210> 245
<211> 13
<212> PRT
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<400> 245

Val Lys Thr Gly Asn Gln Ser Arg Cys Trp Ile Ala Leu
1 5 10

<210> 246
<211> 13
<212> PRT
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<400> 246

Val Lys Thr Gly Asn Gln Ser Arg Cys Trp Ile Ala Leu
1 5 10

<210> 247
<211> 13
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<213> hepatitis C virus

<400> 247

Val Lys Thr Gly Asn Ser Val Arg Cys Trp Ile Pro Leu
1 5 10

<210> 248

<211> 13

<212> PRT

<213> hepatitis C virus

<400> 248

Val Lys Thr Gly Asn Val Ser Arg Cys Trp Ile Ser Leu
1 5 10

<210> 249

<211> 13

<212> PRT

<213> hepatitis C virus

<400> 249

Val Arg Lys Asp Asn Val Ser Arg Cys Trp Val Gln Ile
1 5 10

<210> 250

<211> 10

<212> PRT

<213> hepatitis C virus

<400> 250

Ala Pro Ser Phe Gly Ala Val Thr Ala Pro
1 5 10

<210> 251

<211> 10

<212> PRT

<213> hepatitis C virus

<400> 251

Val Ser Gln Pro Gly Ala Leu Thr Lys Gly
1 5 10

<210> 252

<211> 10

<212> PRT

<213> hepatitis C virus

<400> 252

Val Lys Tyr Val Gly Ala Thr Thr Ala Ser
1 5 10

<210> 253

<211> 10

<212> PRT

<213> hepatitis C virus

<400> 253

Ala Pro Tyr Ile Gly Ala Pro Val Glu Ser
1 5 10

<210> 254

<211> 10

<212> PRT

<213> hepatitis C virus

<400> 254

Ala Gln His Leu Asn Ala Pro Leu Glu Ser
1 5 10

<210> 255

<211> 10

<212> PRT

<213> hepatitis C virus

<400> 255

Ser Pro Tyr Val Gly Ala Pro Leu Glu Pro
1 5 10

<210> 256

<211> 10

<212> PRT

<213> hepatitis C virus

<400> 256

Ser Pro Tyr Ala Gly Ala Pro Leu Glu Pro
1 5 10

<210> 257

<211> 10

<212> PRT

<213> hepatitis C virus

<400> 257

Ala Pro Tyr Leu Gly Ala Pro Leu Glu Ser
1 5 10

<210> 258
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 258

Ala Pro Tyr Leu Gly Ala Pro Leu Glu Ser
1 5 10

<210> 259
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 259

Ala Pro Tyr Val Gly Ala Pro Leu Glu Ser
1 5 10

<210> 260
<211> 11
<212> PRT
<213> hepatitis C virus

<400> 260

Asn Val Pro Tyr Leu Gly Ala Pro Leu Thr Ser
1 5 10

<210> 261
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 261

Ala Pro His Leu Arg Ala Pro Leu Ser Ser
1 5 10

<210> 262
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 262

Ala Pro Tyr Leu Gly Ala Pro Leu Thr Ser
1 5 10

<210> 263
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 263

Arg Pro Arg Gln His Ala Thr Val Gln Asp
1 5 10

<210> 264
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 264

Ser Pro Gln His His Lys Phe Val Gln Asp
1 5 10

<210> 265
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 265

Arg Pro Arg Arg Leu Trp Thr Thr Gln Glu
1 5 10

<210> 266
<211> 10
<212> PRT
<213> hepatitis C virus

<400> 266

Pro Pro Arg Ile His Glu Thr Thr Gln Asp
1 5 10

<210> 267
<211> 14
<212> PRT
<213> hepatitis C virus

<400> 267

Thr Ile Ser Tyr Ala Asn Gly Ser Gly Pro Ser Asp Asp Lys
1 5 10

<210> 268
<211> 19
<212> PRT
<213> hepatitis C virus

<400> 268

Ser Arg Arg Gln Pro Ile Pro Arg Ala Arg Arg Thr Glu Gly Arg Ser
1 5 10 15

Trp Ala Gln

<210> 269
<211> 1443
<212> DNA
<213> hepatitis C virus

<400> 269

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accaccattc ttgggatagg cactgtcctt gaccaggcag agacggctgg agctaggctc	180
gtcgtcttgg ccacggccac ccctccggc agtgtgacaa cgccccaccc caacatcgag	240
gaagtggccc tgcctcagga gggggagggtt cccttctacg gcagagccat tccccttgct	300
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gccaagcaac tgaccagcct gggcgtgaac gccgtggcat attatagagg tctagacgtc	420
gccgtcatcc ccacagcagg agacgtggc gtgtgcagca ccgacgcgt catgacggga	480
ttcacccggcg actttgattc tgtcatagac tgcaactccg ccgtcactca gacggtgac	540
ttcagtctgg atcccacttt taccatttag actaccacag tgccccagga cgcagtgtcc	600
agaagccagc gtagggccg cacggggaga ggtaggcacg gcatataccg gtatgtctcg	660
gctggagaga gaccgtctga catgttcgac tccgtggcgc tctgtgagtg ctacgatgcc	720
ggatgtgcgt ggtatgtatct gactcctgcc gagactaccg tgaggttgcg cgcttacata	780
aacacccccc ggctccctgt ctgtcaggac catttgaat tctgggaggg ggtgttcacg	840
gggctacta acatcgacgc tcacatgctg tcacagacca aacagggtgg ggagaatttc	900
ccatacccttg tagcgtacca agcaacagtc tgtgttcgcg cgaaagcgcc cccccccagc	960
tgggacacaa tgtggaaatg catgctccgt ctcaaaccga ctttaactgg ccctactccc	1020
ctcttgtaca ggctggggcc cgtccagaat gagatcacac tgacgcaccc catcaccaag	1080

tacattatgg cttgcatgtc tgccgacttg gaggtcatta ccagcaactg ggttctggtg 1140
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caatttgatg agatggagga gtgctcggcc tcggtgcct atatggacga gacacgtgcc 1320
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tac 1443

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<211> 481
<212> PRT
<213> hepatitis C virus

<400> 270

Thr Ile Thr Thr Gly Ala Ser Ile Thr Tyr Ser Thr Tyr Gly Lys Phe
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Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Val Ile Ile Cys
20 25 30

Asp Glu Cys His Ser Gln Asp Ala Thr Thr Ile Leu Gly Ile Gly Thr
35 40 45

Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu Ala
50 55 60

Thr Ala Thr Pro Pro Gly Ser Val Thr Thr Pro His Pro Asn Ile Glu
65 70 75 80

Glu Val Ala Leu Pro Gln Glu Gly Glu Val Pro Phe Tyr Gly Arg Ala
85 90 95

Ile Pro Leu Ala Phe Ile Lys Gly Gly Arg His Leu Ile Phe Cys His
100 105 110

Ser Lys Lys Lys Cys Asp Glu Leu Ala Lys Gln Leu Thr Ser Leu Gly
115 120 125

Val Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ala Val Ile Pro
130 135 140

Thr Ala Gly Asp Val Val Val Cys Ser Thr Asp Ala Leu Met Thr Gly
145 150 155 160

Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Ser Ala Val Thr
165 170 175

Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu Thr Thr
180 185 190

Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg Gly Arg Thr
195 200 205

Gly Arg Gly Arg His Gly Ile Tyr Arg Tyr Val Ser Ala Gly Glu Arg
210 215 220

Pro Ser Asp Met Phe Asp Ser Val Val Leu Cys Glu Cys Tyr Asp Ala
225 230 235 240

Gly Cys Ala Trp Tyr Asp Leu Thr Pro Ala Glu Thr Thr Val Arg Leu
245 250 255

Arg Ala Tyr Ile Asn Thr Pro Gly Leu Pro Val Cys Gln Asp His Leu
260 265 270

Glu Phe Trp Glu Gly Val Phe Thr Gly Leu Thr Asn Ile Asp Ala His
275 280 285

Met Leu Ser Gln Thr Lys Gln Gly Glu Asn Phe Pro Tyr Leu Val
290 295 300

Ala Tyr Gln Ala Thr Val Cys Val Arg Ala Lys Ala Pro Pro Pro Ser
305 310 315 320

Trp Asp Thr Met Trp Lys Cys Met Leu Arg Leu Lys Pro Thr Leu Thr
325 330 335

Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Pro Val Gln Asn Glu Ile
340 345 350

Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met Ser Ala
355 360 365

Asp Leu Glu Val Ile Thr Ser Thr Trp Val Leu Val Gly Gly Val Val
370 375 380

Ala Ala Leu Ala Ala Tyr Cys Leu Thr Val Gly Ser Val Ala Ile Val
385 390 395 400

Gly Arg Ile Ile Leu Ser Gly Lys Pro Ala Ile Ile Pro Asp Arg Glu
405 410 415

Ala Leu Tyr Gln Gln Phe Asp Glu Met Glu Glu Cys Ser Ala Ser Leu
420 425 430

Pro Tyr Met Asp Glu Thr Arg Ala Ile Ala Gly Gln Phe Lys Glu Lys
435 440 445

Val Leu Gly Phe Ile Ser Thr Thr Gly Gln Lys Ala Glu Thr Leu Lys
450 455 460

Pro Ala Ala Thr Ser Val Trp Asn Lys Ala Glu Gln Phe Trp Ala Thr
465 470 475 480

Tyr

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<211> 5
<212> PRT
<213> hepatitis C virus

<400> 271

Leu Glu Trp Arg Asn
1 5

<210> 272
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 272

Leu Ser Gly Lys Pro Ala Ile Ile Pro Asp Arg Glu Val Leu Tyr Arg
1 5 10 15

Glu Phe Asp Glu
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<210> 273
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 273

Ser Gln His Leu Pro Tyr Ile Glu Gln Gly Met Met Leu Ala Glu Gln
1 5 10 15

Phe Lys Gln Lys
20

<210> 274
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 274

Leu Ala Glu Gln Phe Lys Gln Lys Ala Leu Gly Leu Leu Gln Thr Ala
1 5 10 15

Ser Arg Gln Ala
20

<210> 275
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 275

Leu Ser Gly Arg Pro Ala Val Ile Pro Asp Arg Glu Val Leu Tyr Gln
1 5 10 15

Glu Phe Asp Glu
20

<210> 276
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 276

Ala Ser His Leu Pro Tyr Ile Glu Gln Gly Met Gln Leu Ala Glu Gln
1 5 10 15

Phe Lys Gln Lys
20

<210> 277
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 277

Leu Ala Glu Gln Phe Lys Gln Lys Ala Leu Gly Leu Leu Gln Thr Ala
1 5 10 15

Thr Lys Gln Ala
20

<210> 278
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 278

Val Asn Gln Arg Ala Val Val Ala Pro Asp Lys Glu Val Leu Tyr Glu
1 5 10 15

Ala Phe Asp Glu
20

<210> 279
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 279

Ala Ser Arg Ala Ala Leu Ile Glu Glu Gly Gln Arg Ile Ala Glu Met
1 5 10 15

Leu Lys Ser Lys
20

<210> 280
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 280

Ile Ala Glu Met Leu Lys Ser Lys Ile Gln Gly Leu Leu Gln Gln Ala

1 5 10 15

Ser Lys Gln Ala
20

<210> 281
<211> 20
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<213> hepatitis C virus

<400> 281

Leu Asn Asp Arg Val Val Val Ala Pro Asp Lys Glu Ile Leu Tyr Glu
1 5 10 15

Ala Phe Asp Glu
20

<210> 282
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 282

Ala Ser Lys Ala Ala Leu Ile Glu Glu Gly Gln Arg Met Ala Glu Met
1 5 10 15

Leu Lys Ser Lys
20

<210> 283
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 283

Met Ala Glu Met Leu Lys Ser Lys Ile Gln Gly Leu Leu Gln Gln Ala
1 5 10 15

Thr Arg Gln Ala
20

<210> 284
<211> 20
<212> PRT
<213> hepatitis C virus

<400> 284

Ala Ala Ser Leu Pro Tyr Met Asp Glu Thr Arg Ala Ile Ala Gly Gln
1 5 10 15

Phe Lys Glu Lys
20